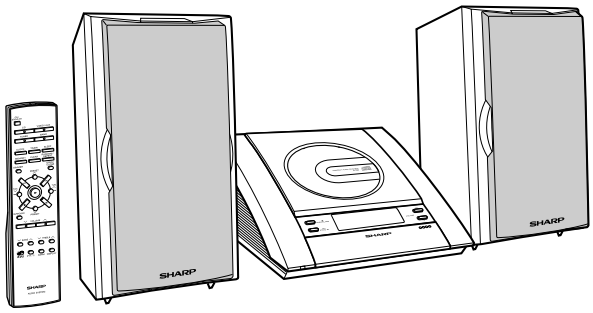
SHARP SERVICE MANUAL

No. S3217XL1500H/

COMPACT AUDIO SYSTEM



MODEL XL-1500H

XL-1500H Compact Audio System consisting of XL-1500H (main unit) and CP-XL1500H (speaker system).

COMPACT disc DIGITAL AUDIO

R·D·S

SAVING ENERGY STAND-BY POWER CONSUMPTION 0.6W

ENERGY

(For Europe)

• In the interests of user-safety the set should be restored to its original condition and only parts identical to those specified should be used.

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SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

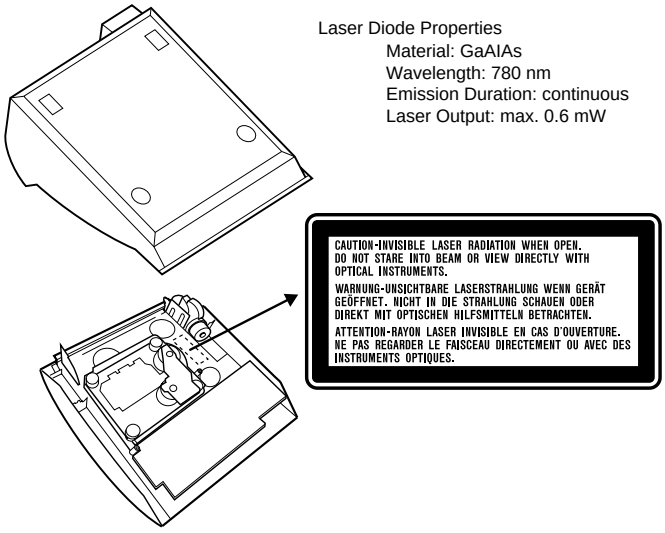
SAFETY PRECAUTION FOR SERVICE MANUAL

This product is classified as a CLASS 1 LASER PRODUCT.

Precaution to be taken when replacing and servicing the Laser Pickup.

The AEL (Accessible Emission Level) of Laser Power Output is less than Class 1 but the laser component is capable of emitting radiation exceeding the limit for Class1. Therefore it is important that the following precautions must be observed during servicing to protect your eyes against exposure to the Laser beam.

(1) When the cabinet has been removed, the power is turned on without a compact disc, and the Pickup is on a position outer than the lead-in position, the Laser will light for several seconds to detect a disc. Do not look into the Pickup Lens.
(2) The Laser Power Output of the Pickup inside the unit and replacement service parts have already been adjusted prior to shipping.
(3) No adjustment to the Laser Power should be attempted when replacing or servicing the Pickup.
(4) Under no circumstances look directly into the Pickup Lens at any time.
(5) CAUTION - Use of controls or adjustments, or performance of procedures other than those specified herein may result in hazardous radiation exposure.


Laser Diode Properties
Material: GaAlAs
Wavelength: 780 nm
Emission Duration: continuous
Laser Output: max. 0.6 mW
CAUTION-INVISIBLE LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS.
WARNUNG-UNSICHTBARE LASERSTRAHLUNG WENN GERÄT GEÖFFNET. NICHT IN DIE STRAHLUNG SCHAUEN ODER DIREKT MIT OPTISCHEN HILFSMITTELN BETRACHTEN.
ATTENTION-RAYON LASER INVISIBLE EN CAS D'OUVERTURE. NE PAS REGARDER LE FAISCEAU DIRECTEMENT OU AVEC DES INSTRUMENTS OPTIQUES.

ADVERSEL-SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. SE IKKE IND I STRÅLEN-HELLER IKKE MED OPTISKE INSTRUMENTER.

VARO! AVATTAESSA OLET ALTTIINA NÄKYVÄLLE JA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE ÄLÄ TUIJOTA SÄTEESEEN ÄLÄKÄ KATSO SITÄ OPTISEN LAITTE EN LÄPI.

VARNING-SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. STIRRA EJ IN I STRÅLEN OCH BETRAKTA EJ STRÅLEN GENOM OPTISKT INSTRUMENT.

VAROITUS! LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

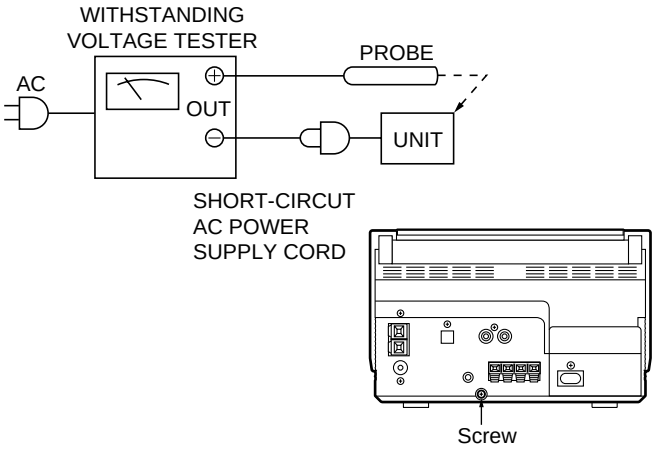
VARNING - OM APPARATEN ANVÄNDS PÅ ANNAT SÄTT ÄN I DENNA BRUKSANVISNING SPECIFICERAS. KAN ANVÄNDAREN UTSÄTTAS FÖR OSYNLIG LASER-STRÅLNING, SOM ÖVERSKRIDER GRÄNSEN FÖR LASERKLASS 1.

IMPORTANT SERVICE NOTES (FOR U.K. ONLY)

Before returning the unit to the customer after completion of a repair or adjustment it is necessary for the following withstand voltage test to be applied to ensure the unit is safe for the customer to use.

Setting of Withstanding Voltage Tester and set.

Set name	set value
Withstanding Voltage Tester	
Test voltage	4,240 VPEAK 3,000 VRMS
Set time	6 secs
Set current(Cutoff current)	4 mA
Unit	
Judgment	
OK: The “GOOD” lamp lights. NG: The “NG” lamp lights and the buzzor sounds.	



FOR A COMPLETE DESCRIPTION OF THE OPERATION OF THIS UNIT, PLEASE REFER TO THE OPERATION MANUAL.

SPECIFICATIONS

■ General

Power source	AC 230 V, 50 Hz
Power consumption	Power on: 30 W Power stand-by: 0.6 W
Dimensions	Width: 226 mm (8-15/16") Height: 145 mm (5-3/4") Depth: 292 mm (11-1/2")
Weight	2.8 kg (6.2 lbs.)

■ Amplifier **For Europe**

Output power	PMPO: 60 W (total) MPO: 30 W (15 W + 15 W) (DIN 45 324) RMS: 20 W (10 W + 10 W) (DIN 45 324)
Output terminals	Speakers: 8 ohms Headphones: 16 - 50 ohms (recommended: 32 ohms) CD digital output (optical)
Input terminals	Video/Auxiliary (audio signal): 500 mV/47 kohms

■ Amplifier **For U.K.**

Output power	RMS: 20 W (10 W + 10 W) (10% T.H.D.)
Output terminals	Speakers: 8 ohms Headphones: 16 - 50 ohms (recommended: 32 ohms) CD digital output (optical)
Input terminals	Video/Auxiliary (audio signal): 500 mV/47 kohms

Specifications for this model are subject to change without prior notice.

■ CD player

Type	Compact disc player
Signal readout	Non-contact, 3-beam semiconductor laser pickup
D/A converter	1-bit D/A converter
Frequency response	20 - 20,000 Hz
Dynamic range	90 dB (1 kHz)

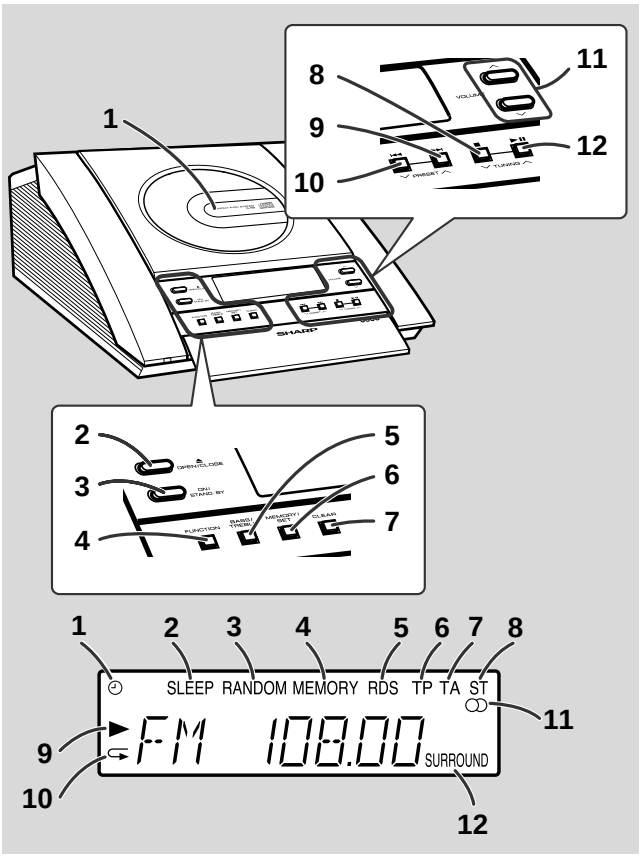
■ Tuner

Frequency range	FM: 87.5 - 108 MHz AM: 522 - 1,620 kHz

■ Speaker

Type	2-way type speaker system Tweeter 10 cm (4") Woofer
Maximum input power	20 W
Rated input power	10 W
Impedance	8 ohms
Dimensions	Width: 146 mm (5-3/4") Height: 267 mm (10-9/16") Depth: 186 mm (7-3/8")
Weight	1.5 kg (3.3 lbs.)/each

NAMES OF PARTS

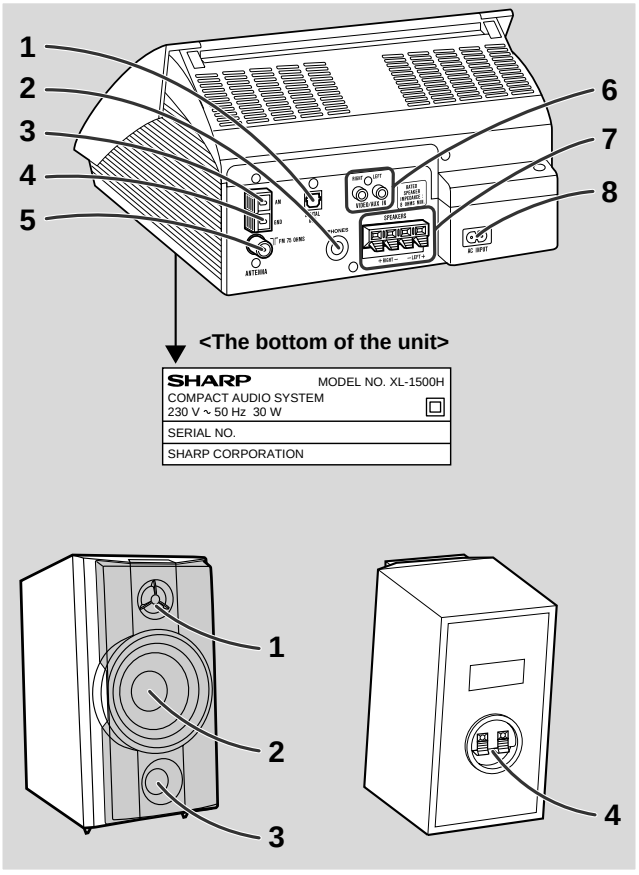


■ Front panel

1. CD Compartment
2. CD Open/Close Button
3. On/Stand-by Button
4. Function Selector Button
5. Bass/Treble Selector Button
6. Memory/Set Button
7. Clear Button
8. CD Stop, Tuning Down Button
9. CD Track Up or Fast Forward, Tuner Preset Up Button
10. CD Track Down or Fast Reverse, Tuner Preset Down Button
11. Volume Up and Down Buttons
12. CD Play or Pause, Tuning Up Button

■ Display

1. Timer Play Indicator
2. Sleep Indicator
3. CD Random Play Indicator
4. Memory Indicator
5. RDS Indicator
6. Traffic Programme Indicator
7. Traffic Announcement Indicator
8. FM Stereo Mode Indicator
9. CD Play Indicator
10. CD Repeat Play Indicator
11. FM Stereo Receiving Indicator
12. Surround Indicator



■ Rear panel

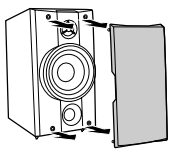
1. CD Digital Output Socket
2. Headphone Socket
3. AM Aerial Terminal
4. Aerial Earth Terminal
5. FM 75 Ohms Aerial Socket
6. Video/Auxiliary (Audio Signal) Input Sockets
7. Speaker Terminals
8. AC Power Input Socket

■ Speaker system

1. Tweeter
2. Woofer
3. Bass Reflex Duct
4. Speaker Terminals

Speaker grilles are removable:

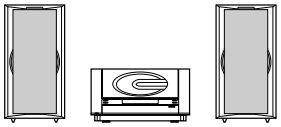
Make sure nothing comes into contact with the speaker diaphragms when you remove the speaker grilles.

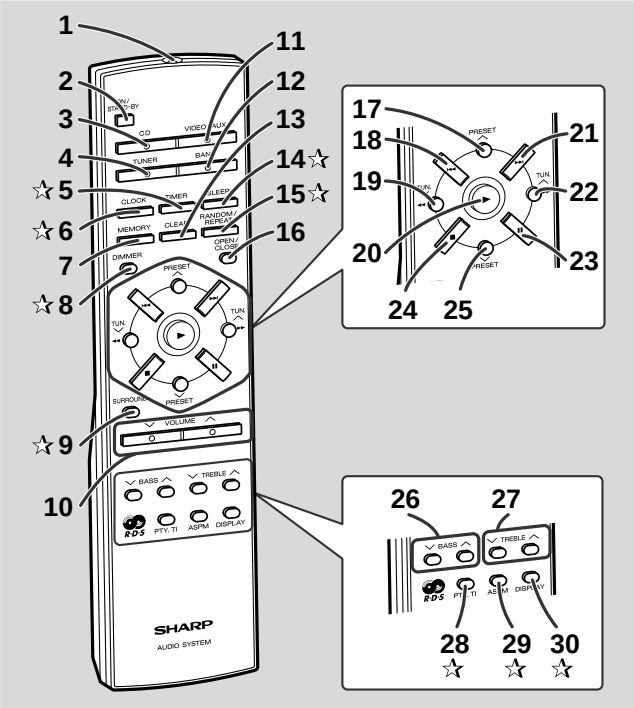


Placing the speaker system:

There is no distinction between the right and the left speakers.

Left speaker **Right speaker**





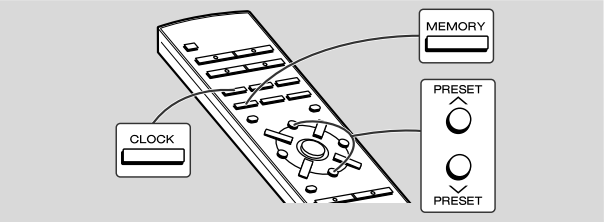
Buttons with "☆" mark in the illustration can be operated on the remote control only.
Other buttons can be operated both on the main unit and the remote control.

■ Remote control

1. Remote Control Transmitter
2. On/Stand-by Button
3. CD Button
4. Tuner Button
5. Timer Button
6. Clock Button
7. Memory Button
8. Dimmer Button
9. Surround Button
10. Volume Up and Down Buttons
11. Video/Auxiliary Button
12. Band Selector Button
13. Clear Button
14. Sleep Button
15. Random/Repeat Button
16. CD Open/Close Button
17. Tuner Preset Up Button
18. CD Track Down Button
19. CD Fast Reverse, Tuning Down Button
20. CD Play Button
21. CD Track Up Button
22. CD Fast Forward, Tuning Up Button
23. CD Pause Button
24. CD Stop Button
25. Tuner Preset Down Button
26. Bass Up and Down Buttons
27. Treble Up and Down Buttons
28. RDS Programme Type/ Traffic Information Search Button
29. RDS ASPM (Auto Station Programme Memory) Button
30. RDS Display Mode Selector Button

OPERATION MANUAL

Setting the clock



This may be operated only with the remote control.
In this example, the clock is set for the 24-hour (0:00) display.

1 **Press the CLOCK button and within 3 seconds, press the MEMORY button.**

2 **Within 1 minute, press the PRESET (∨ or ∧) button to select 24-hour or 12-hour display and then press the MEMORY button.**

"0:00" → The 24-hour display will appear.
(0:00 - 23:59)
"AM 12:00" → The 12-hour display will appear.
(AM 12:00 - PM 11:59)

Note that this can only be set when the unit is first installed or it has been reset.

3 **Within 1 minute, press the PRESET (∨ or ∧) button to adjust the hour and then press the MEMORY button.**

When the 12-hour display is selected, "AM" will change automatically to "PM".

4 **Within 1 minute, press the PRESET (∨ or ∧) button to adjust the minutes and then press the MEMORY button.**

The clock starts from "0" second. (Seconds are not displayed.)

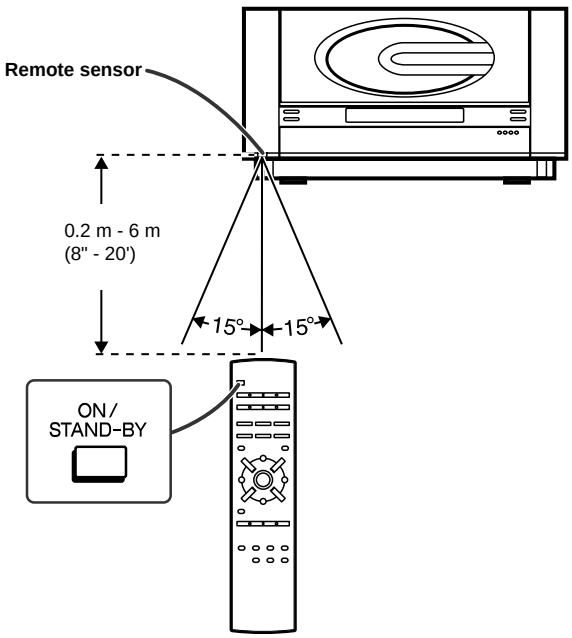
To confirm the time display when the power is on:
Press the CLOCK button.
The time display will appear for about 5 seconds.
Note:
The "0:00" or time will flash at the push of the CLOCK button when the AC power supply is restored after a power failure or unplugging the unit.
Readjust the clock as follows.
To readjust the clock:
Perform "Setting the clock" from the beginning. If the time display is flashing, step 2 (for selecting the 24-hour or 12-hour display) will be skipped.
To change the 24-hour or 12-hour display:
1 Clear all the programmed contents.
2 Perform "Setting the clock" from the beginning.

Remote control

■ Test of the remote control

Face the remote control directly to the remote sensor on the unit.

The remote control can be used within the range shown below:
Press the ON/STAND-BY button. Does the power turn on? Now, you can enjoy the music.



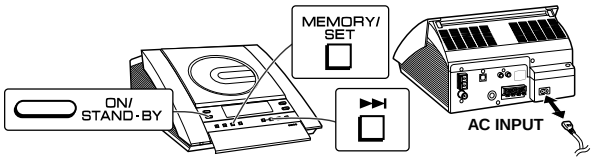
Troubleshooting Chart

■ If trouble occurs

When this product is subjected to strong external interference (mechanical shock, excessive static electricity, abnormal supply voltage due to lightning, etc.) or if it is operated incorrectly, it may malfunction.

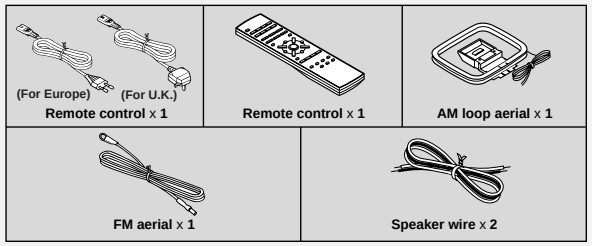
If such a problem occurs, do the following:

1 **Set the unit to the stand-by mode and turn the power on again.**
2 **If the unit is not restored in step 1, unplug and plug in the unit, and then turn the power on.**
3 **If neither step 1 nor 2 restores the unit, do the following:**
① Press the ON/STAND-BY button to enter the power stand-by mode.
② Unplug the AC power lead from the AC INPUT socket on the unit.
③ Whilst pressing down the MEMORY/SET button and the ▶▶| button, plug the AC power lead into the AC INPUT socket on the unit.



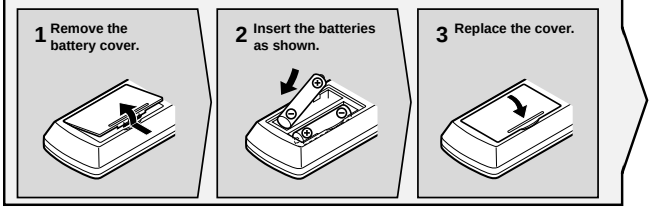
Caution:
This operation will erase all data stored in memory including clock, timer settings, tuner preset, and CD programme.

1 Accessories

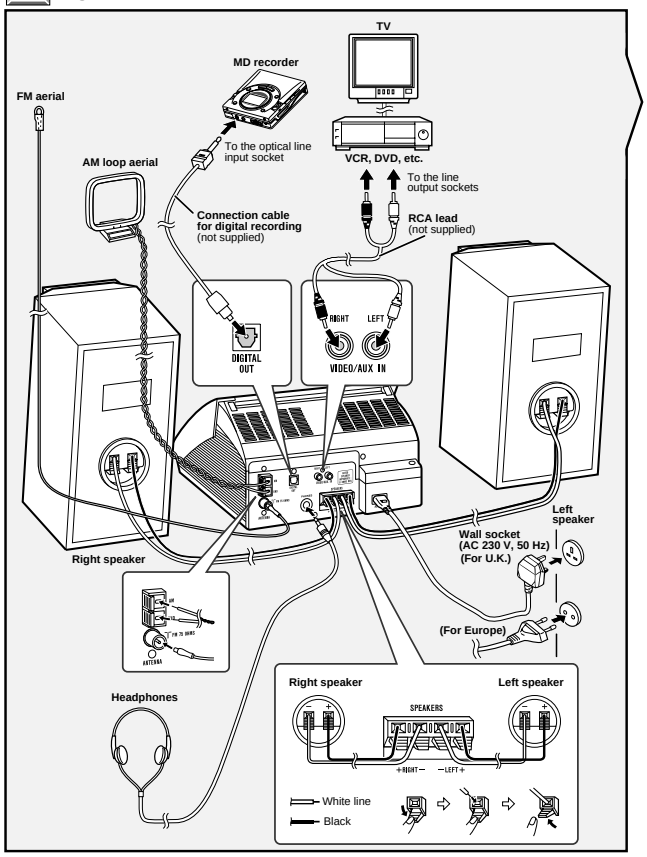


2 Battery installation of remote control

Use 2 "AAA" size batteries (UM-4, R03, HP-16 or similar).
Batteries are not included.

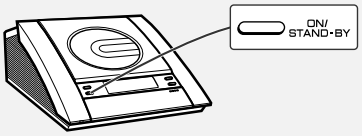


3 System Connections

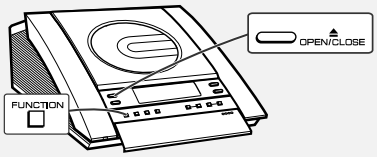


4 Turn on your System

Press the ON/STAND-BY button to turn the power on.

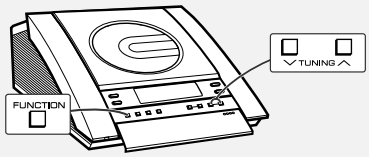


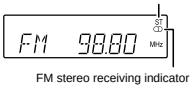
Listening to a CD



1	FUNCTION	**Press the FUNCTION button until "CD STOP" appears on the display.**
2	OPEN/CLOSE	**Press the ▲ OPEN/CLOSE button to open the CD compartment.**
3		**Place a CD on the spindle, label side up.**
4	OPEN/CLOSE	**Press the ▲ OPEN/CLOSE button to close the CD compartment.** The CD playback will start automatically.

Listening to the Radio



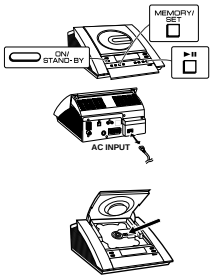
1	FUNCTION	**Press the FUNCTION button until "FM" or "AM" appears on the display.**
2	TUNING	**Press the TUNING (∨ or ∧) button to tune in to the desired station.** When the TUNING button is pressed for more than 0.5 seconds, scanning will start automatically and the tuner will stop at the first receivable broadcast station.
3	FUNCTION	**To receive an FM stereo transmission: Press the FUNCTION button to display the "ST" indicator.** "ST" will appear when an FM broadcast is in stereo. 

■ If trouble occurs

When this product is subjected to strong external interference (mechanical shock, excessive static electricity, abnormal supply voltage due to lightning, etc.) or if it is operated incorrectly, it may malfunction.

If such a problem occurs, do the following:

1. **Set the unit to the stand-by mode and turn the power on again.**
2. **If the unit is not restored in step 1, unplug and plug in the unit, and then turn the power on.**
3. **If neither step 1 nor 2 restores the unit, do the following:**
   - ① Press the ON/STAND-BY button to enter the power stand-by mode.
   - ② Unplug the AC power lead from the AC INPUT socket on the unit.
   - ③ Whilst pressing down the MEMORY/SET button and the ▶II button, plug the AC power lead into the AC INPUT socket on the unit.



■ Maintenance

Do not touch the laser pickup lens. If fingerprints or dust accumulate on the pickup, clean it gently with a dry cotton swab.

DISASSEMBLY

Caution on Disassembly
Follow the below-mentioned notes when disassembling the unit and reassembling it, to keep it safe and ensure excellent performance:
1. Take compact disc out of the unit.
2. Be sure to remove the power supply plug from the wall outlet before starting to disassemble the unit.
3. Take off nylon bands or wire holders where they need to be removed when disassembling the unit. After servicing the unit, be sure to rearrange the leads where they were before disassembling.
4. Take sufficient care on static electricity of integrated circuits and other circuits when servicing.

STEP	REMOVAL	PROCEDURE	FIGURE
1	Top cabinet	1. Screw ..... (A1) x4 2. Socket ..... (A2) x6	8-1,2 8-2
2	Rear panel	1. Screw ..... (B1) x3	8-1
3	Chassis	1. Screw ..... (C1) x5 2. Screw ..... (C2) x4 3. Hook ..... (C3) x4	8-3 8-1 8-3
4	Tuner PWB	1. Screw ..... (D1) x1 2. Socket ..... (D2) x1	9-1
5	Terminal PWB	1. Screw ..... (E1) x2 2. Socket ..... (E2) x1	9-1
6	Back Panel	1. Screw ..... (F1) x1	9-1
7	Main PWB	1. Screw ..... (G1) x5 2. Screw ..... (G2) x2 3. Socket ..... (G3) x2	9-1
8	CD PWB	1. Flat Cable ..... (H1) x1 2. Socket ..... (H2) x2 3. Screw ..... (H3) x4	9-2
9	CD Mechanism	1. Screw ..... (J1) x4	9-2
10	LED PWB	1. Screw ..... (K1) x2	9-2
11	Switch PWB	1. Hook ..... (L1) x2 2. Socket ..... (L2) x1	9-3
12	Display PWB	1. Screw ..... (M1) x6 2. Socket ..... (M2) x1	9-3
13	Gear Box	1. Hook ..... (N1) x3	9-3

Note:
After removing the connector for the optical pickup from the connector, wrap the conductive aluminium foil around the front end of connector remove to protect the optical pickup from electrostatic damage.

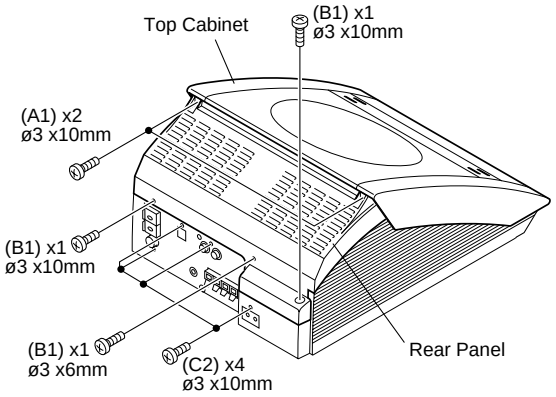


Figure 8-1

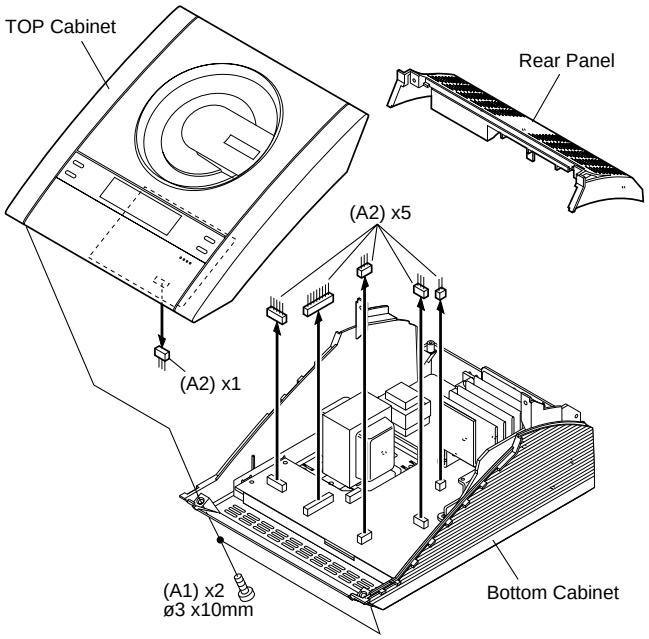


Figure 8-2

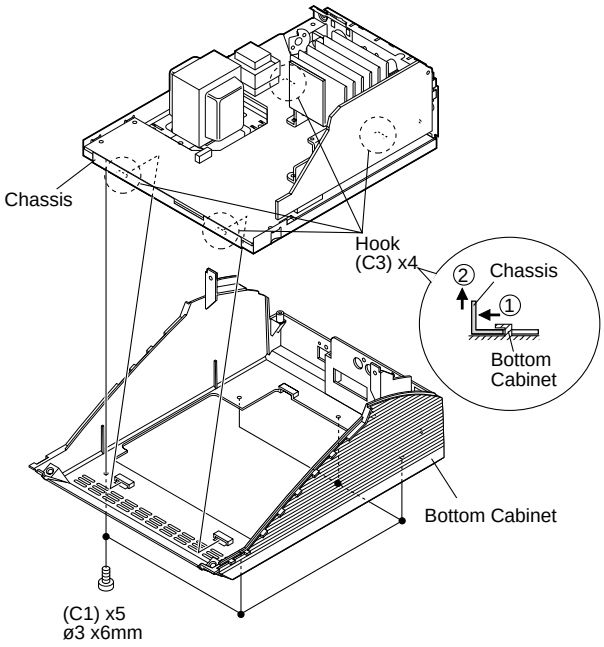


Figure 8-3

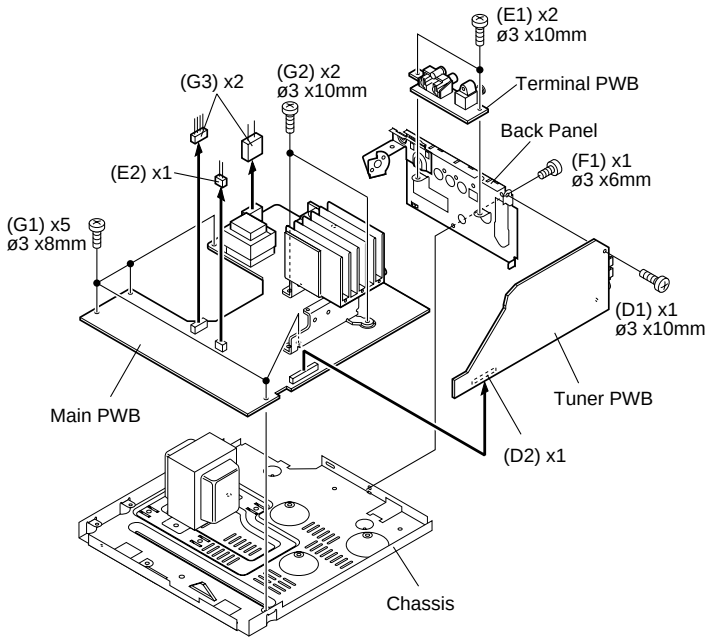


Figure 9-1

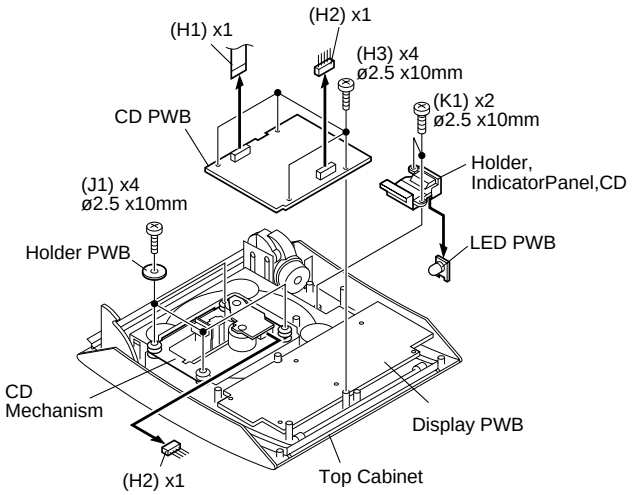


Figure 9-2

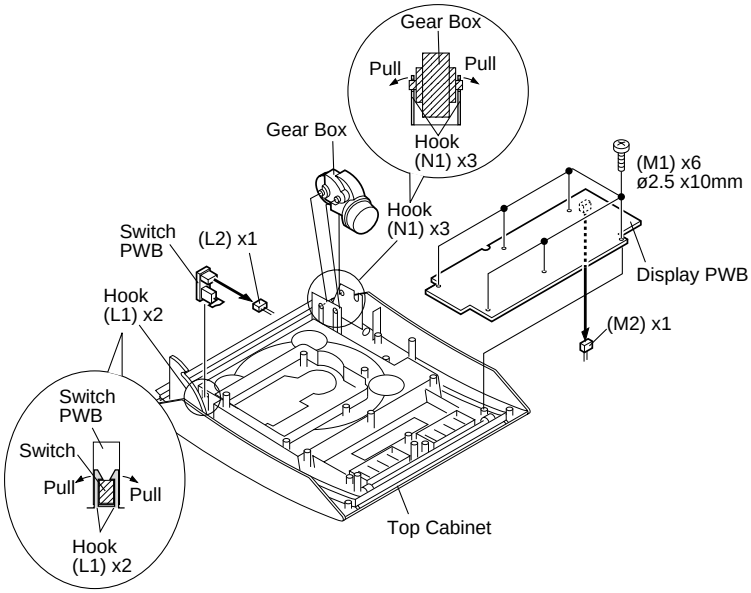


Figure 9-3

STEP	REMOVAL	PROCEDURE	FIGURE
1	Speaker	1. Net Frame ..... (A1) x1 2. Front Panel ..... (A2) x1 3. Screw ..... (A3) x4	9-4

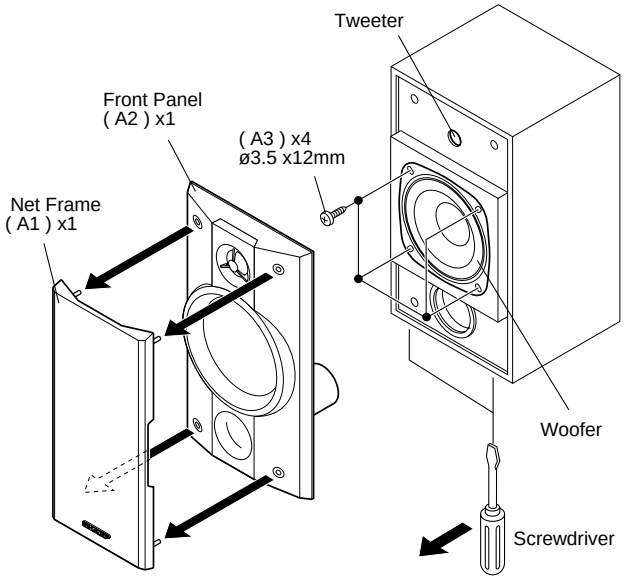


Figure 9-4

REMOVING AND REINSTALLING THE MAIN PARTS

How to remove the CD lid (See Fig. 10-1.)

Perform steps 1 to 13 of the disassembly method to remove the gear box.(See page 8,9)

1. Remove the screws (A1) x 2 pcs., to remove the CD lid motor.
2. Remove the hooks (A2) x 3 pcs., to remove the worm wheel.

Caution:

Be careful so that the gear is not damaged.
(The damage gear emits noise during searching.)

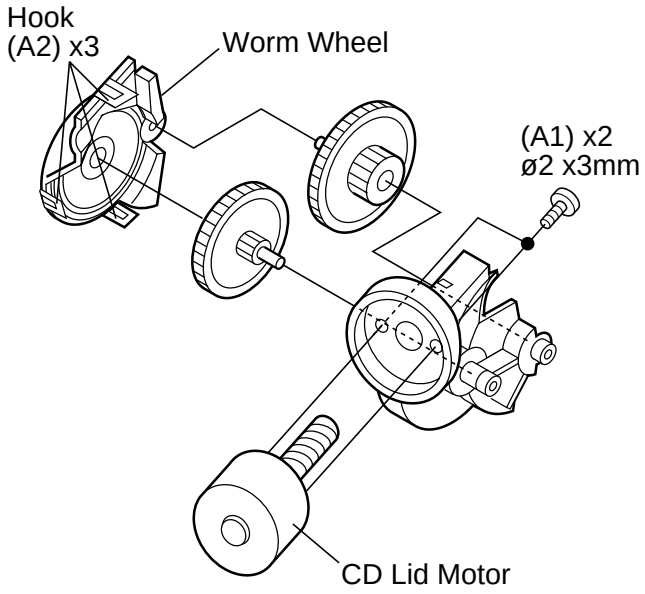


Figure 10-1

CD MECHANISM SECTION (See Fig. 10-2.)

Perform steps 1 to 9 of the disassembly method to remove the CD mechanism.(See page 8,9)

1. Remove the mechanism cover, paying attention to the pawls (A1)x 4 pcs.
2. Remove the screws (A2) x 2 pcs., to remove the shaft (A3) x 1 pc.
3. Remove the stop washer (A4) x 1 pc., to remove the gear (A5) x 1 pc.
4. Remove the pickup unit.

Note:

After removing the connector for the optical pickup from the connector, wrap the conductive aluminium foil around the front end of connector remove to pretect the optical pickup from electrostatic damage.

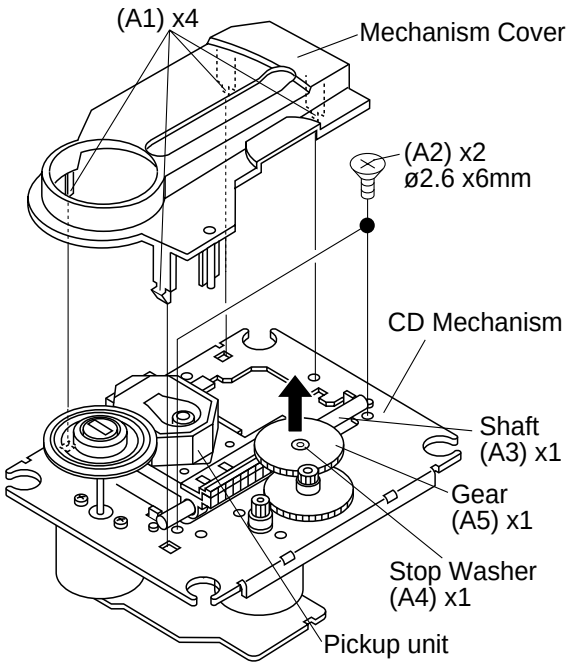


Figure 10-2

ADJUSTMENT

TUNER SECTION

fL: Low-range frequency
fH: High-range frequency

• AM IF/RF

Signal generator: 400 Hz, 30%, AM modulated

Frequency	Frequency	Display	Setting/ Adjusting Parts	Instrument Connection
AM IF	450 kHz	1,620 kHz	T351	*1
AM Band Coverage	—	522 kHz	(fL): T306 1.1 ± 0.1 V	*2
AM Tracking	990 kHz	990 kHz	(fL): T302	*1

*1. Input: Antenna, Output: Speaker Terminal
*2. Input: Input is not connected, Output: TP301

• Setting the Test Mode

Keeping the FF/FWD button and MEMORY/SET button pressed, turn on ON/STAND-BY. Then, the frequency is initially set in the memory as shown in Table. Call it with the VOLUME UP/DOWN button to use it for adjustment and check of tuner circuit.

Preset No.	FM	Preset No.	AM
1	87.50 MHz	6	522 kHz
2	108.00 MHz	7	1,620 kHz
3	98.00 MHz	8	990 kHz
4	90.00 MHz	9	603 kHz
5	106.00 MHz	10	1,404 kHz

• FM Mute Level

Signal generator: 1 kHz, 40 kHz dev., FM modulated

Frequency	Display	Adjusting Parts	Instrument Connection
98.00 MHz (30 dBμV)	98.00 MHz	VR351*1	Input: SO301 Output: Speaker Terminal

*1. Adjust so that an output signal appears.

• Check FM VT

Signal generator: 1 kHz, 40 kHz dev., FM modulated

Frequency	Display	Check Point	Instrument Connection
87.5 MHz	87.5 MHz	2.2 V ± 0.7 V	TP301
108 MHz	108 MHz	7.3 V ± 1.0 V	TP301

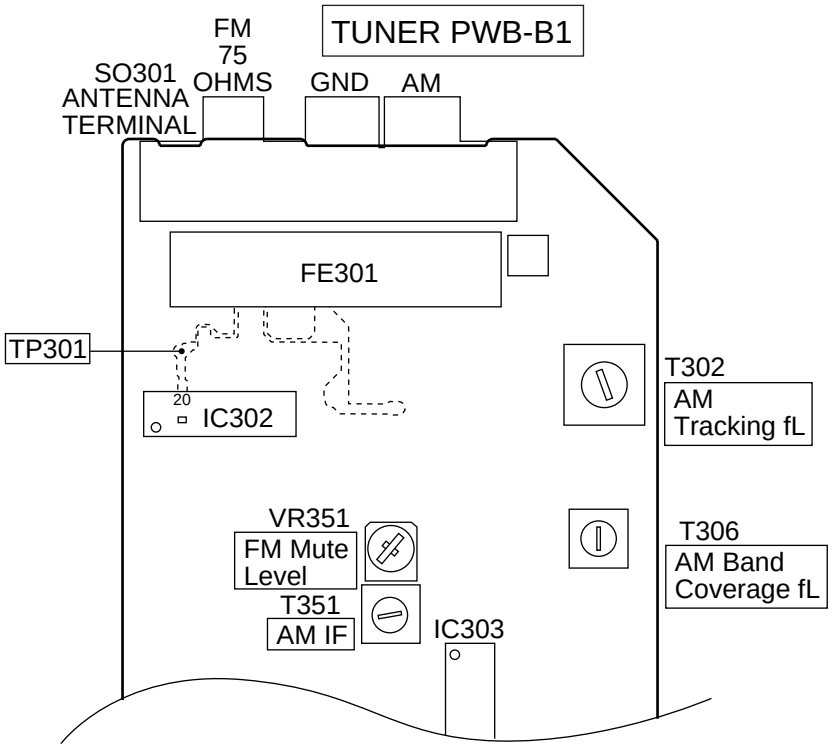


Figure 11 ADJUSTMENT POINTS

TEST MODE

The test mode applied to this microcomputer has three modes, namely the ordinary test mode for adjustment or measurement, the aging test mode, and the self-diagnosis test mode for self-judgment in case of final product inspection.

1. Turning on the test mode

For obtaining each test mode, press the ON/STAND-BY button, while keeping pressing the following two buttons in the ordinary stand-by mode (power off). In this case, the main unit buttons are valid. When turning the ON/STAND-BY on with remote control buttons, test modes are not obtained.

[Ordinary test mode]

1. CD Test Mode (TEST 1).....BASS/TREBLE + STOP
2. Tuner Test Mode (TEST 2).....BASS/TREBLE + VOL+
3. Electronic Volume Test Mode (TEST 3)..... BASS/TREBLE + VOL–
4. Timer Test Mode (TEST 4)..... MEMORY/SET + STOP
5. LCD Test Mode (TEST 5)..... MEMORY/SET + VOL–
6. Electric CD Lid Aging Test Mode (TEST 8)..... MEMORY/SET + VOL+

[Self-diagnosis Test Mode]

1. Button input diagnosis test mode (TEST6)……...MEMORY/SET + PLAY

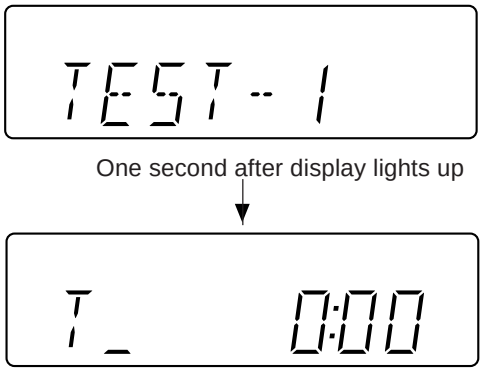
Processes are different depending on destinations at initial settings.

2. CD Test Mode (TEST 1)

In the CD test mode the operation of each step is possible even if the LID-SW is off. If focus cannot be taken in step 3 or any error is processed, it is impossible to proceed to the next step. During error processing, end the test mode by pressing the ON/STAND-BY button or return to the step 1 by pressing the CD STOP button. Any other operations are inhibited.

1. Step 1 Mode

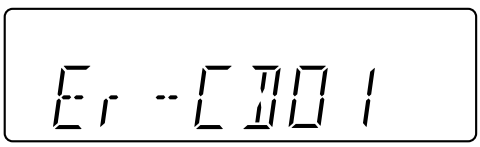
When the CD test mode is obtained, the following display lights up. Then CD initialization operation flow proceeds up to CD STB off to wait for the following buttons to be pressed.



Press the following buttons in this state to obtain the operations specified below.

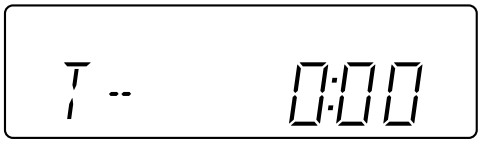
"ON/STAND-BY" ..... Test mode and power turned off to shift to the ordinary standby mode.
"FF/FWD" ..... After the pickup returns to the innermost periphery, it slides toward the outer periphery while this button is pressed.
"REW/REV" ..... After the pickup returns to the innermost periphery, it slides toward the inner periphery while this button is pressed. If PICKUP IN is on, input is invalid.
"PLAY" ..... Shift to step 2
"STOP" ..... Invalid
"FUNCTION" ..... Shift to step 5

* In case of initialization, the pickup is moved toward the inner periphery. Any buttons other than "ON/STAND-BY" button are not accepted until the shift of pickup to the inner periphery is completed at this time. If PICKUP IN SW ON cannot be detected within 10 seconds, the slide motor stops, and the following error display appears. Press the ON/STAND-BY button to end the test mode, or press the CD STOP button to return to step 1. Any other operations are inhibited.



2. Step 2 Mode

Press the "CD PLAY" button in this mode to transmit the laser lighting command LDON (8400) and turn on the laser. Any other operations are not performed in this case.

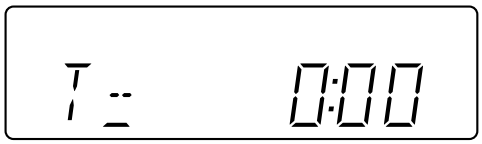


Press the following buttons in this state to obtain the operations specified below.

"ON/STAND-BY" ..... Test mode and power turned off to shift to the ordinary standby mode.
"FF/FWD" ..... The pickup slides toward the outer periphery while this button is pressed.
"REW/REV" ..... The pickup slides toward the inner periphery while this button is pressed. If PICKUP IN is on, input is invalid.
"PLAY" ..... Shift to step 3
"STOP" ..... Return to step 1
"FUNCTION" ..... Shift to step 5

3. Step 3 Mode

While the laser keeps lighting, CD initialization operation flow proceeds up to 'CLV servo ON' to wait for the following buttons to be pressed.(Focus servo turned on for focus search)
The focus search is repeated to take focus.

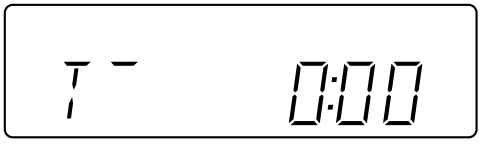


Press the following buttons in this state to obtain the operations specified below.

"ON/STAND-BY" ..... Test mode and power turned off to shift to the ordinary standby mode.
"FF/FWD" ..... The pickup slides toward the outer periphery while this button is pressed.
"REW/REV" ..... The pickup slides toward the inner periphery while this button is pressed. If PICKUP IN is on, input is invalid.
"PLAY" ..... If focus has been taken, shift to step 4 is executed. If not, acceptance is inhibited.
"STOP" ..... Return to step 1
"FUNCTION" ..... Shift to step 5
*If the focus is not received after it has been taken, the process returns to step 1.

4. Step 4 Mode

The CLV servo ON command (8600) is transmitted to wait for the following buttons to be pressed. (The disc is rotated for CLV lock.)



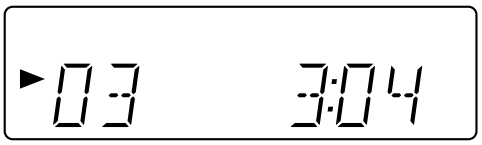
The time display always indicates "0:00".

Press the following buttons in this state to obtain the operations specified below.

"ON/STAND-BY" ..... Test mode and power turned off to shift to the ordinary standby mode.
"FF/FWD" ..... The pickup slides toward the outer periphery while this button is pressed.
"REW/REV" ..... The pickup slides toward the inner periphery while this button is pressed. If PICKUP IN is on, input is invalid.
"PLAY" ..... Shift to step 5
"STOP" ..... Return to step 1
"FUNCTION" ..... Shift to step 5
*If the focus is not received, the process returns to step 1.

5. Step 5 Mode

When the CD initialization operation flow is completed, the mute is turned off, and playback is started. Even if playback reaches the outermost periphery of disc, the operation does not stop. The LCD display indicates the playback passage time as in case of ordinary CD playback.



Press the following buttons in this state to obtain the operations specified below.

"ON/STAND-BY" ..... Test mode and power turned off to shift to the ordinary standby mode.
"FF/FWD" ..... The pickup slides toward the outer periphery while this button is pressed.
"REW/REV" ..... The pickup slides toward the inner periphery while this button is pressed. If PICKUP IN is on, input is invalid.
"PLAY" ..... Invalid
"STOP" ..... Return to step 1
"FUNCTION" ..... Shift to step 6
"MEMORY" ..... Shift to step 7
*If the is not received, the process returns to step 1.

Other cautions
• TOC IL is not available for this test mode.

6. Step 6 Mode

Press the FUNCTION button during step 5 operation to set EC/FC bit to "H" by PROSET command (9188 transmission) and to monitor BUS2 (QDRE) during idle mode. The number of errors for 1 frame (1 sub-code block in IC data) is read by read command SRC6 during "H". The number of errors accumulated in 750 frames for 10 seconds is displayed on LCD. During the display, music signal is played back.

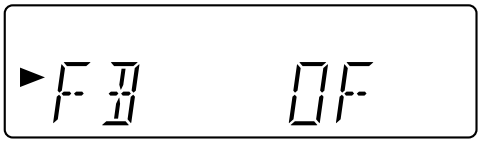
Press the following buttons in this state to obtain the operations specified below.

"ON/STAND-BY" ..... Test mode and power turned off to shift to the ordinary standby mode.
"FF/FWD" ..... The pickup slides toward the outer periphery while this button is pressed.
"REW/REV" ..... The pickup slides toward the inner periphery while this button is pressed. If PICKUP IN is on, input is invalid.
"PLAY" ..... Invalid
"STOP" ..... Return to step 1
"FUNCTION" ..... Shift to step 5
"MEMORY" ..... Shift to step 7

Press FF/PRESET UP or REW/PRESET DOWN button to slide the pickup. The number of errors accumulated up to that time is cleared and addition is restarted after shift.
*If the focus is not received, the process returns to step 1.

7. Step 7 Mode

Press "MEMORY" key during step 6 operation to display automatically adjusted values on LCD in the order as below. Item names are displayed by left alignment, and adjusted values by right alignment in hexadecimal numbers. Operations other



than display are as same as those for step 5.

a) "Fb" is displayed on the left of LCD. FTBAST command (D480) is transmitted to designate focus balance adjusting register. Then data read by read command SRC2 (2) are displayed in hexadecimal numbers. After waiting 2 seconds, operation is shifted to (b).
b) "FG" is displayed on the left of LCD. FTBAST command (D481) is transmitted to designate focus gain adjusting register. Then data read by read command SRC2 (2) are displayed in hexadecimal numbers. The upper two bits, which are invalid, are displayed as "00". After waiting two seconds, operation is shifted to (c).
c) "Tb" is displayed on the left of LCD. FTBAST command (D482) is transmitted to designate tracking balance adjusting register. Then data read by read command SRC2 (2) are displayed in hexadecimal numbers. After waiting 2 seconds, operation is shifted to (d).
d) "TG" is displayed on the left of LCD. FTBAST command (D483) is transmitted to designate tracking gain adjusting register. Then data read by read command SRC2 (2) are displayed in hexadecimal numbers. The upper two bits, which are invalid, are displayed as "00". After waiting 2 seconds, operation is shifted to (e).
e) "FO" is displayed on the left of LCD. FTBAST command (D484) is transmitted to designate focus offset adjusting register. Then data read by read command SRC2 (2) are displayed in hexadecimal numbers. After waiting 2 seconds, operation is shifted to (f).
f) "TO" is displayed on the left of LCD. FTBAST command (D485) is transmitted to designate tracking offset adjusting register. Then data read by read command SRC2 (2) are displayed in hexadecimal numbers. After waiting 2 seconds, operation is shifted to (g).
g) "FF" is displayed on the left of LCD. FTBAST command (D486) is transmitted to designate RF amplitude adjusting register. Then data read by read command SRC2 (2) are displayed in hexadecimal numbers. After waiting 2 seconds, operation is shifted to (a).

Press the following buttons in this state to obtain the operations specified below.

"ON/STAND-BY" ..... Test mode and power turned off to shift to the ordinary standby mode.
"FF/FWD" ..... The pickup slides toward the outer periphery while this button is pressed.
"REW/REV" ..... The pickup slides toward the inner periphery while this button is pressed. If PICKUP IN is on, input is invalid.
"PLAY" ..... Invalid
"STOP" ..... Return to step 1
"FUNCTION" ..... Shift to step 6
"MEMORY" ..... Shift to step 5
*If the focus is not received, the process returns to step 1.

3. Tuner Test Mode (TEST 2)

1. Outline of tuner (radio) test mode

The tuner test mode is intended to store the adjustment and measurement frequencies in the preset memory CH. When adjusting the tuner section in the production line, adjusting personnel are not required to set frequency.

2. Details of tuner test mode

Press the "REW/PRESET DOWN" and "CD PLAY" buttons in POWER OFF state and turn on the power by the use of "ON/STAND-BY" button to preset and store frequency for adjustment and measurement of destination specified by the AREA terminal in the preset memory CH. However, Ordinary 1 and Ordinary 2 are stored in the destinations (selected by SPAN switching operation) when the test mode is obtained.

("FF⏭" + "MEMORY/SET" KEY SPAN CHANGE)

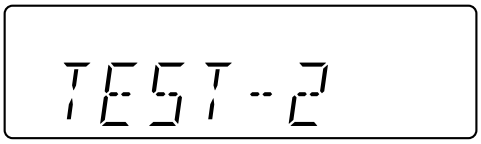
(As for frequencies to be preset and stored for each destination, refer to item 3.)

The tuner test mode is started from preset No.1.

The operations of test mode are identical with the ordinary operations of TUNER function. FUNCTION switching is invalid.

It is necessary to discard the content of preset memory when the tuner test mode is ended; be sure to write "0000" or "1111" bits in the memory to be checked for judging memory error at initial setting and to initialize memory.

When the tuner test mode is obtained, the following display lights for one second.



• The TUNER TEST2 mode is obtained with >> + MEMORY + ON/STAND-BY. ->Turn off AC in the TEST2 mode to restore the initial state.

↓

Turn off POWER to protect the memory of TEST2 mode.
Turn off POWER again to obtain the ordinary operation while the data is stored in the memory (besides TUNER).

↓

If AC OFF state is maintained in this state for about 1/2 day, start is executed in the initial state.

• To clear the whole memory, insert the AC cord, pressing MEMORY + CD PLAY.

3. Preset frequencies for various destinations (random preset memory)

CH	BAND	FM
1		FM 87.50 MHz
2		FM108.00 MHz
3	FM	FM 98.00 MHz
4	STEREO	FM 90.00 MHz
5		FM106.00 MHz

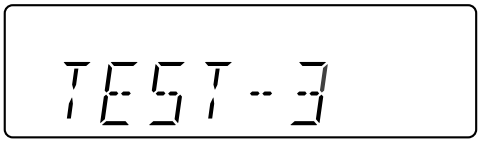
CH	BAND	AM
6		AM 522 kHz
7		AM1620 kHz
8	AM	AM 990 kHz
9		AM 603 kHz
10		AM1404 kHz

CH	BAND	FM
16-25		
26		FM106.00 MHz
27		FM 90.00 MHz
28	FM	FM 98.00 MHz
29	MONO	FM108.00 MHz
30		FM 87.50 MHz

• The slant line sections of the table store no memory.

4. Electronic volume Test Mode (TEST 3)

When this test mode is obtained, the following display lights for one second.



In this mode, volume is -14 dB (STEP28), BASS/TREBLE is set to 0 (0 dB) and SURROUND mode to OFF, and start-up function to CD, respectively. The button operations in the test mode are the same as those of ordinary operation except volume UP/DOWN.

(1) The display is the same as that of ordinary operation except test mode setting.

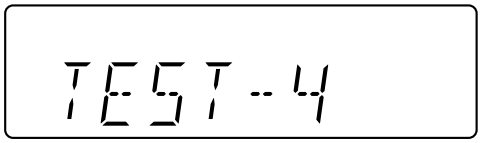
(2) Unlike the ordinary state, the volume is controlled with the volume UP/DOWN button in accordance with the following three steps.

Volume- ∞ (STEP 0) <-> Volume-14 dB (STEP 23) <-> Volume-0 (STEP 30)

(3) BASS/TREBLE and SURROUND are switched when button is pressed..

5. Timer test Mode (TEST 4)

When this test mode is obtained, the following display lights for one second.

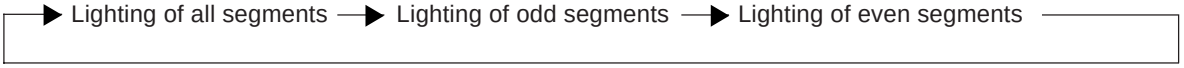


Set the current time and timer time according to the following procedure to reproduce the timer.

1.Set the current time to 1:00, the timer to ON time 1:05, the function to CD, and volume to STEP 12, respectively. One minute is counted as one second, and the timer is reproduced. The fade-in (when playback is started) is executed at a rate of one step for 1 sec. After completion of fade-in, the fade-out is executed at a rate of one step for 1 sec (WAIT 1 sec inserted). After completion of fade-out, the power is turned off (after WAIT 1 sec), and the mode is shifted to the standby. The display during operation is the same as that of ordinary timer operation.

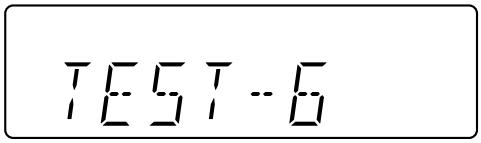
6. LCD Test Mode (TEST 5)

When the LCD test mode is obtained, all the LCD segments are lighted. Then pressing the "PLAY" button switches display as below.



7. Button input diagnosis Test Mode (TEST 6)

When the test mode is obtained, the following is displayed.



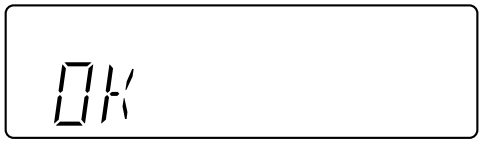
This test mode is intended to check whether all the main unit buttons can be detected. Accordingly, in this test mode, it is checked whether the "ON/STAND-BY" button was pressed after all the buttons shown below were pressed. If the result is OK, OK is displayed. If any one of keys was not pressed, an error is displayed. In both cases of OK termination or error termination, the mode is shifted to the standby mode if the "ON/STAND-BY" button is pressed subsequently.

All models using this type of microcomputer are not always provided with the same buttons. Since the buttons used are different depending on models, types of buttons to be used are determined by whether RDS, SURROUND, and an electric lid are available at the initial setting by MODEL port.

The order of buttons to be pressed is not determined. Accordingly, it is checked whether all buttons have been pressed.

1. PU-IN buttons: REW/PRESET DOWN + CD STOP
   Since this model is provided with SURROUND (HAVE OR NOT), RDS (HAVE OR NOT), and electric CD lid, the following 10 buttons are detected as all buttons.
   PLAY, BASS/TREBLE, FUNCTION, VOLUME UP/DOWN, MEMORY/SET, REW, FF, STOP, CD-OPEN/CLOSE

The OK/NG display of test result is as follows.



8. Electric CD lid Aging Test Mode (TEST 8) (Only for model with electric CD lid)

Outline

OPEN/CLOSE operations of electric CD lid are repeated. The number of repeated times and time period are monitored. If the lid does not move to the regular position after the specified time, operation is stopped. When an error is detected by [CLID_PRO] during CLOSE, operation is also stopped.

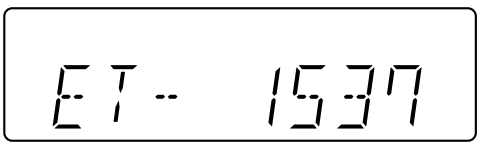
a. POWER ON for function AUX
   CD lid position is checked.
   - CLOSE position: Operation proceeds to the next process.
   - Position other than CLOSE: After the lid moves to CLOSE, operation proceeds to the next process.

b. CD lid operation started
   OPEN operation
   - WAIT 1 second
   - CLOSE operation
   - WAIT 1 second

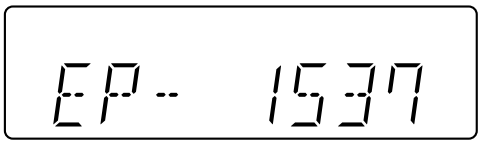
c. Operations above are repeated.
   Specified monitoring time
   - OPEN operation: 5 seconds
   - CLOSE operation: 5 seconds

d. Display
   OPEN>CLOSE is counted as 1. 1 to 59999 are counted; if the count is over 59999, display is returned to 0 to repeat counting.

Display when the lid does not move to the regular position after the specified time
(Ex: Defective operation occurring in the middle of 1538.)



Highlight display of stop when an error is detected by [CLID-PRO]
(Ex: Defective operation occurring in the middle of 1538.)



NOTES ON SCHEMATIC DIAGRAM

- Resistor:
  To differentiate the units of resistors, such symbol as K and M are used: the symbol K means 1000 ohm and the symbol M means 1000 kohm and the resistor without any symbol is ohm-type resistor. Besides, the one with “Fusible” is a fuse type.
- Capacitor:
  To indicate the unit of capacitor, a symbol P is used: this symbol P means micro-micro-farad and the unit of the capacitor without such a symbol is microfarad. As to electrolytic capacitor, the expression “capacitance/withstand voltage” is used.
  (CH), (TH), (RH), (UJ): Temperature compensation
  (ML): Mylar type
  (P.P.): Polypropylene type
- Schematic diagram and Wiring Side of P.W.Board for this model are subject to change for improvement without prior notice.
- The indicated voltage in each section is the one measured by Digital Multimeter between such a section and the chassis with no signal given.
  1. In the tuner section,
     ( ) : AM mode
     : FM stereo mode
  2. In the CD section, the CD is stopped.
- Parts marked with “⚠” (⊏ ニ ニ ニ コ) are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

REF. NO	DESCRIPTION	POSITION
SW702	PICKUP IN	ON—OFF
SW709	ON/STAND-BY	ON—OFF
SW710	CD LID OPEN/CLOSE	ON—OFF
SW711	REW/PRESET DOWN	ON—OFF
SW712	FF/PRESET UP	ON—OFF
SW713	CD STOP/TUNING DOWN	ON—OFF
SW718	CD PLAY/PAUSE/TUNING UP	ON—OFF

REF. NO	DESCRIPTION	POSITION
SW719	VOLUME DOWN	ON—OFF
SW720	VOLUME UP	ON—OFF
SW725	BASS/TREBLE	ON—OFF
SW726	MEMORY/SET	ON—OFF
SW727	CLEAR	ON—OFF
SW728	FUNCTION	ON—OFF
SW802	CD LID	ON—OFF

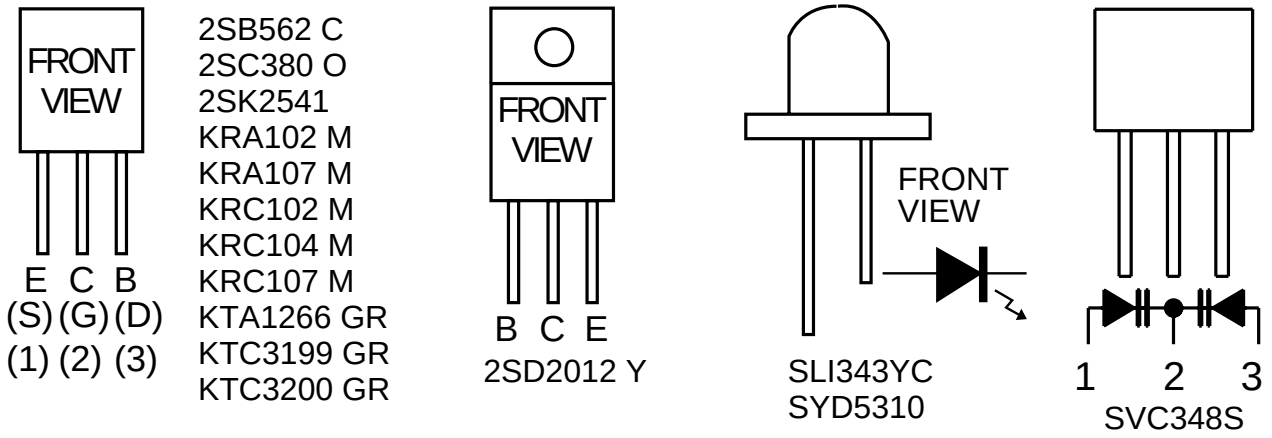
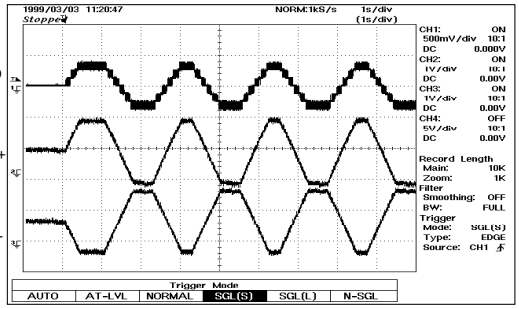


Figure 19 TYPES OF TRANSISTOR AND LED

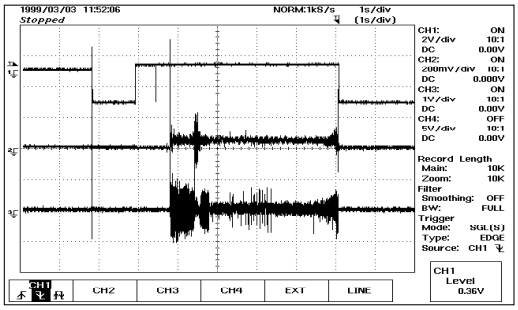
WAVEFORMS OF CD CIRCUIT

NO DISC FOCUS SEARCH



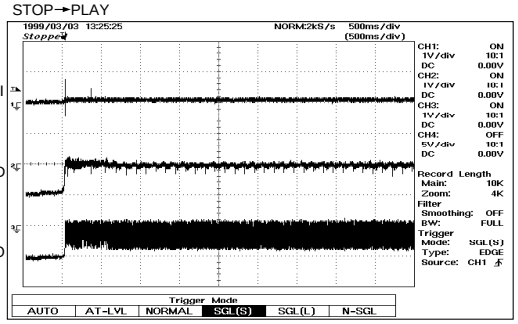
1 FOO IC801 33pin
2 FO+ IC803 26pin
3 FO- IC803 25pin

FOCUS SEARCH→TOC IL



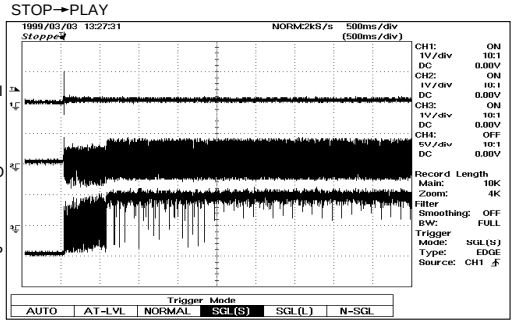
4 SEL IC801 38pin
5 FEI IC801 29pin
6 TEI IC801 31pin

STOP→PLAY



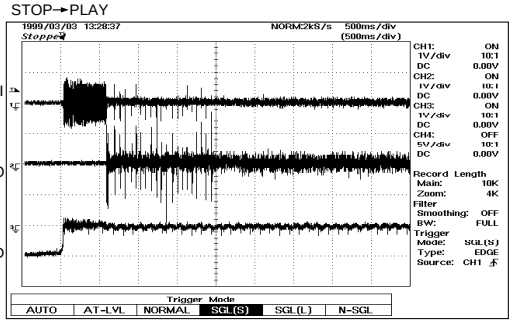
5 FEI IC801 29pin
7 SBAD IC801 30pin
8 RFO IC802 22pin

STOP→PLAY



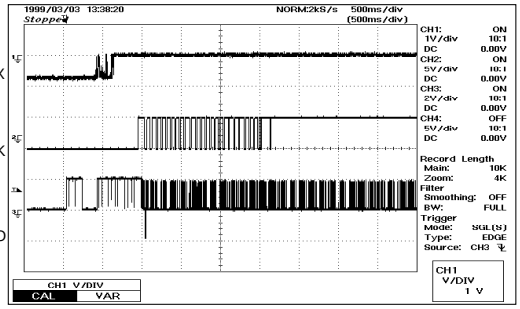
5 FEI IC801 29pin
9 RFGO IC802 19pin
10 RFRP IC802 17pin

STOP→PLAY



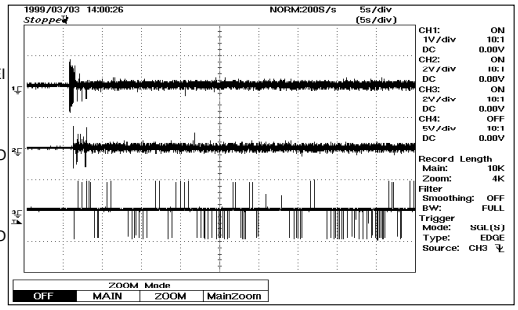
6 TEI IC801 31pin
11 TRO IC801 34pin
7 SBAD IC801 30pin

STOP→PLAY



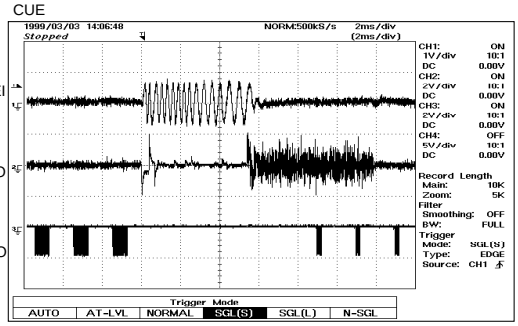
12 TMAX IC801 16pin
13 SBOK IC801 8pin
14 DMO IC801 41pin

STOP→PLAY



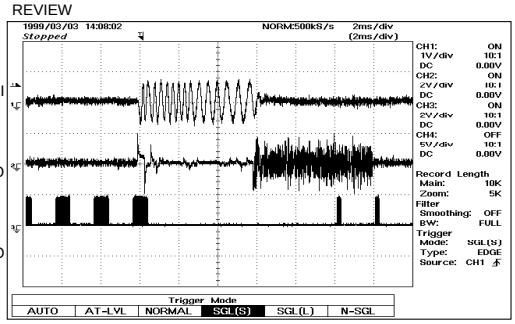
6 TEI IC801 31pin
11 TRO IC801 34pin
15 FMO IC801 40pin

CUE



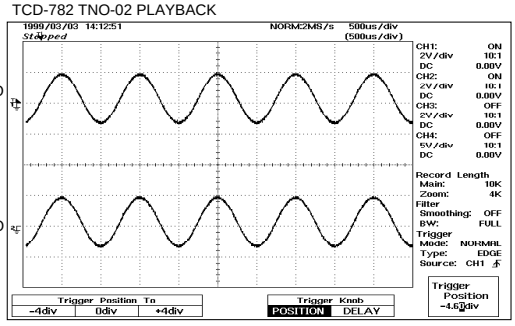
6 TEI IC801 31pin
11 TRO IC801 34pin
15 FMO IC801 40pin

REVIEW



6 TEI IC801 31pin
11 TRO IC801 34pin
15 FMO IC801 40pin

TCD-782 TNO-02 PLAYBACK



16 LO IC801 53pin
17 RO IC801 50pin

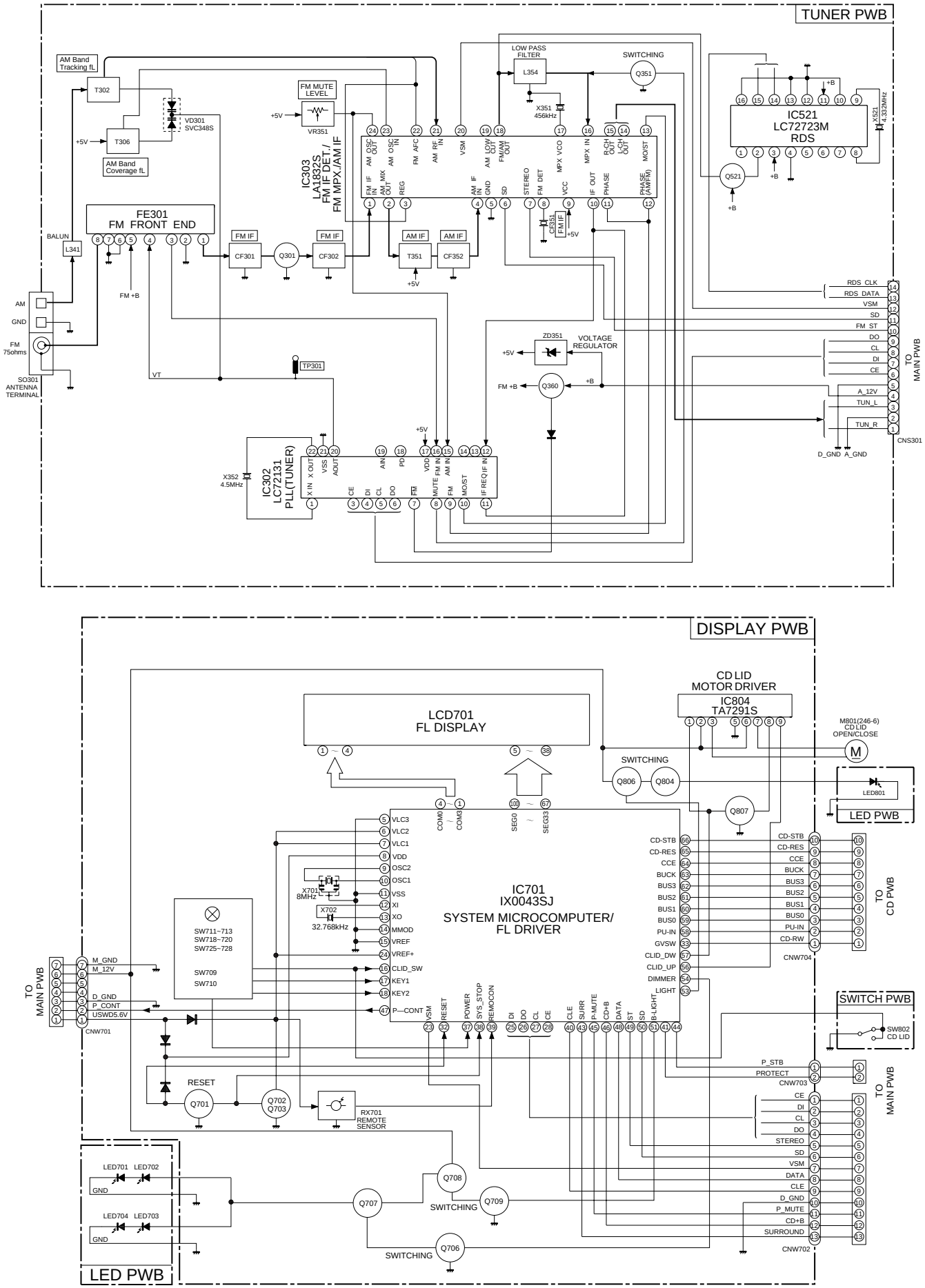


Figure 21 BLOCK DIAGRAM (1/3)

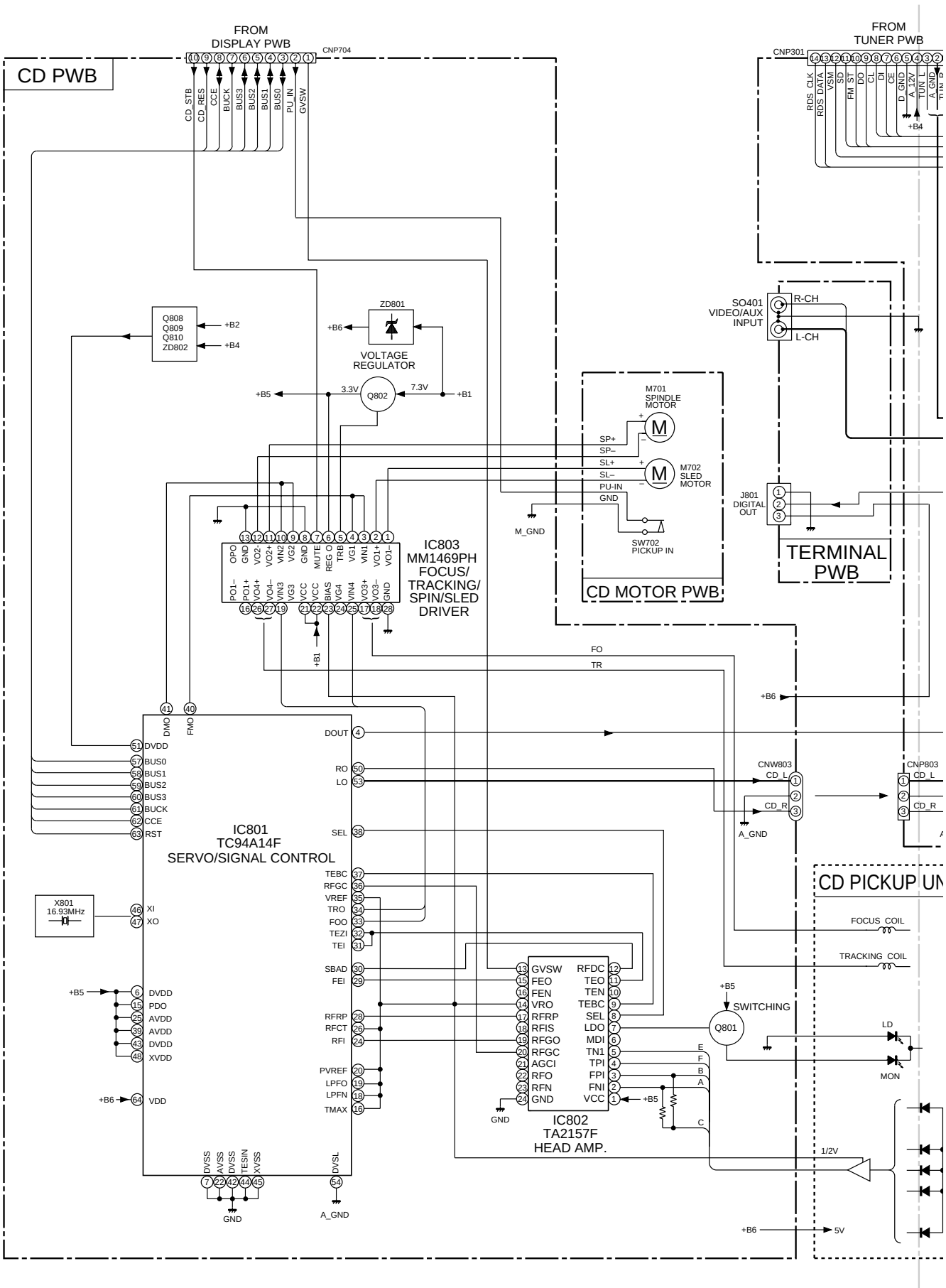


Figure 22 BLOCK DIAGRAM (2/3)

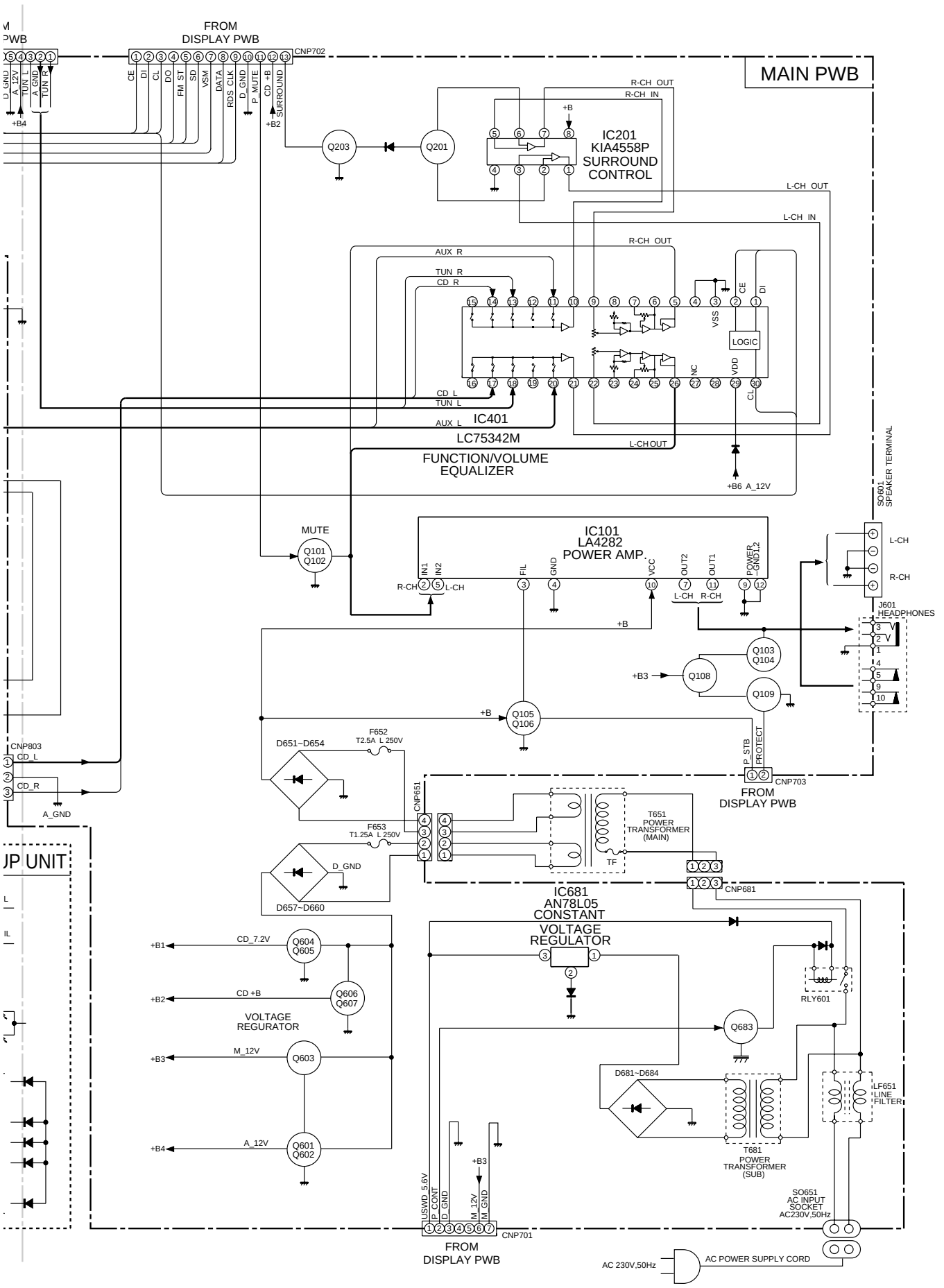
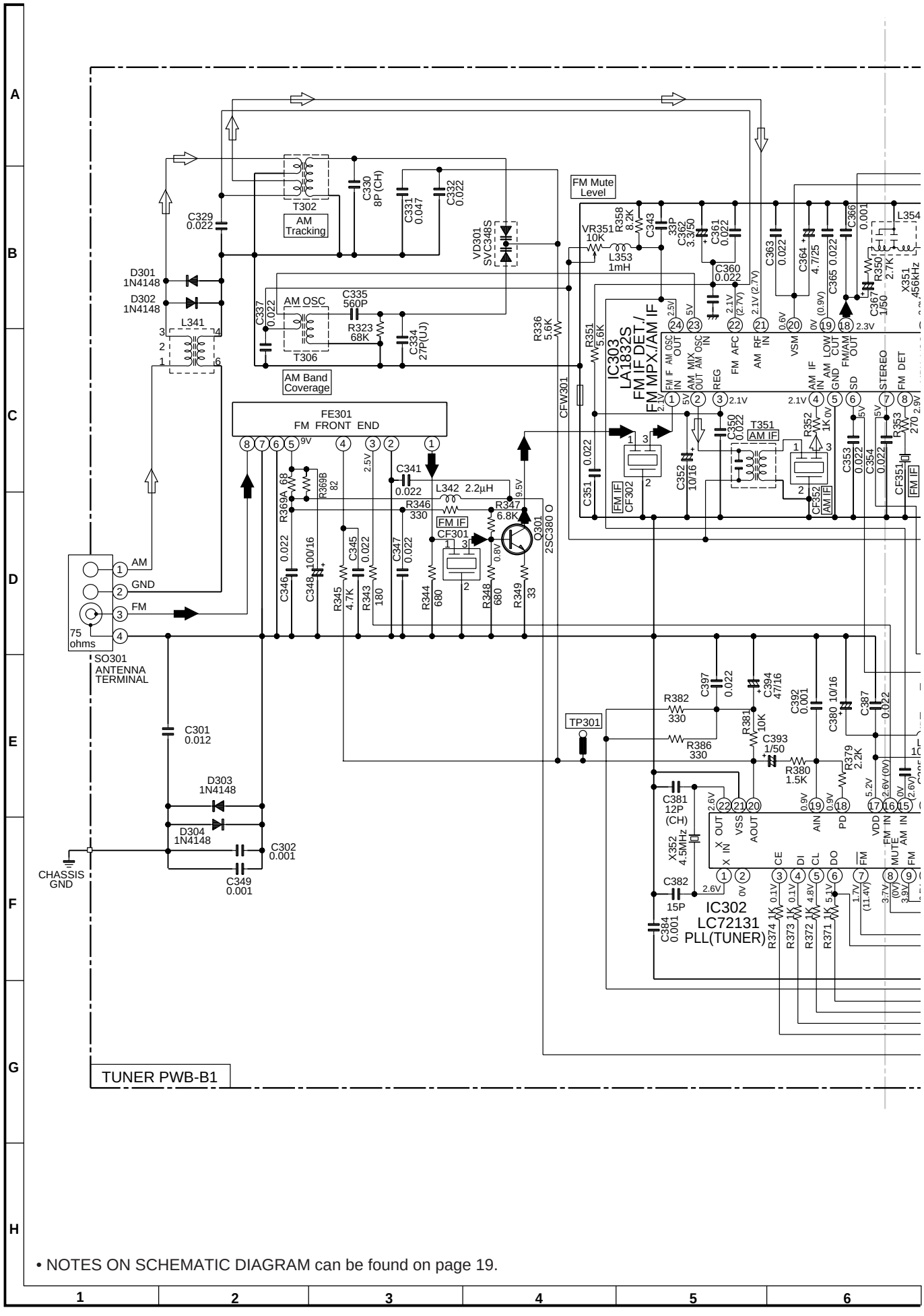
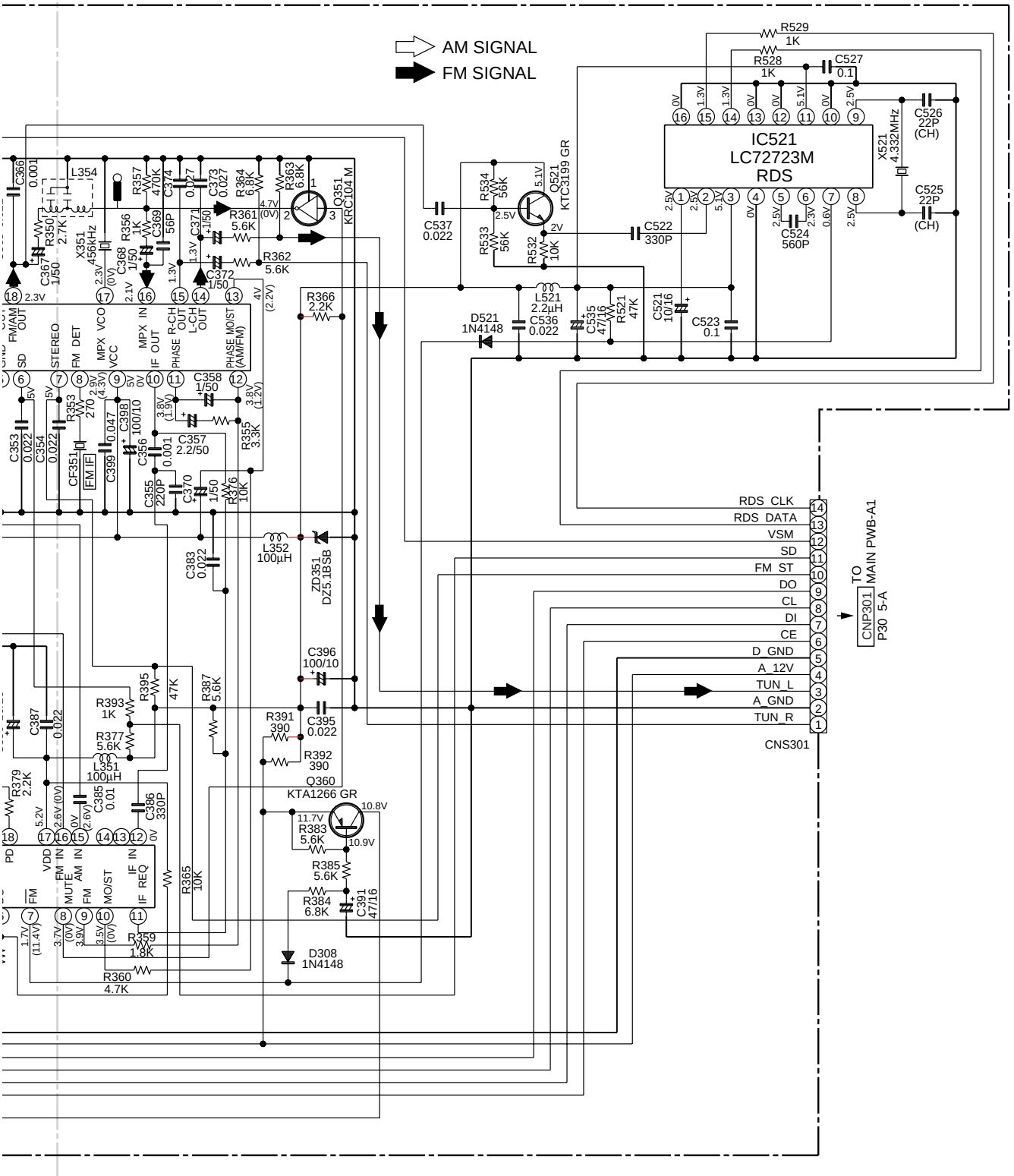


Figure 23 BLOCK DIAGRAM (3/3)



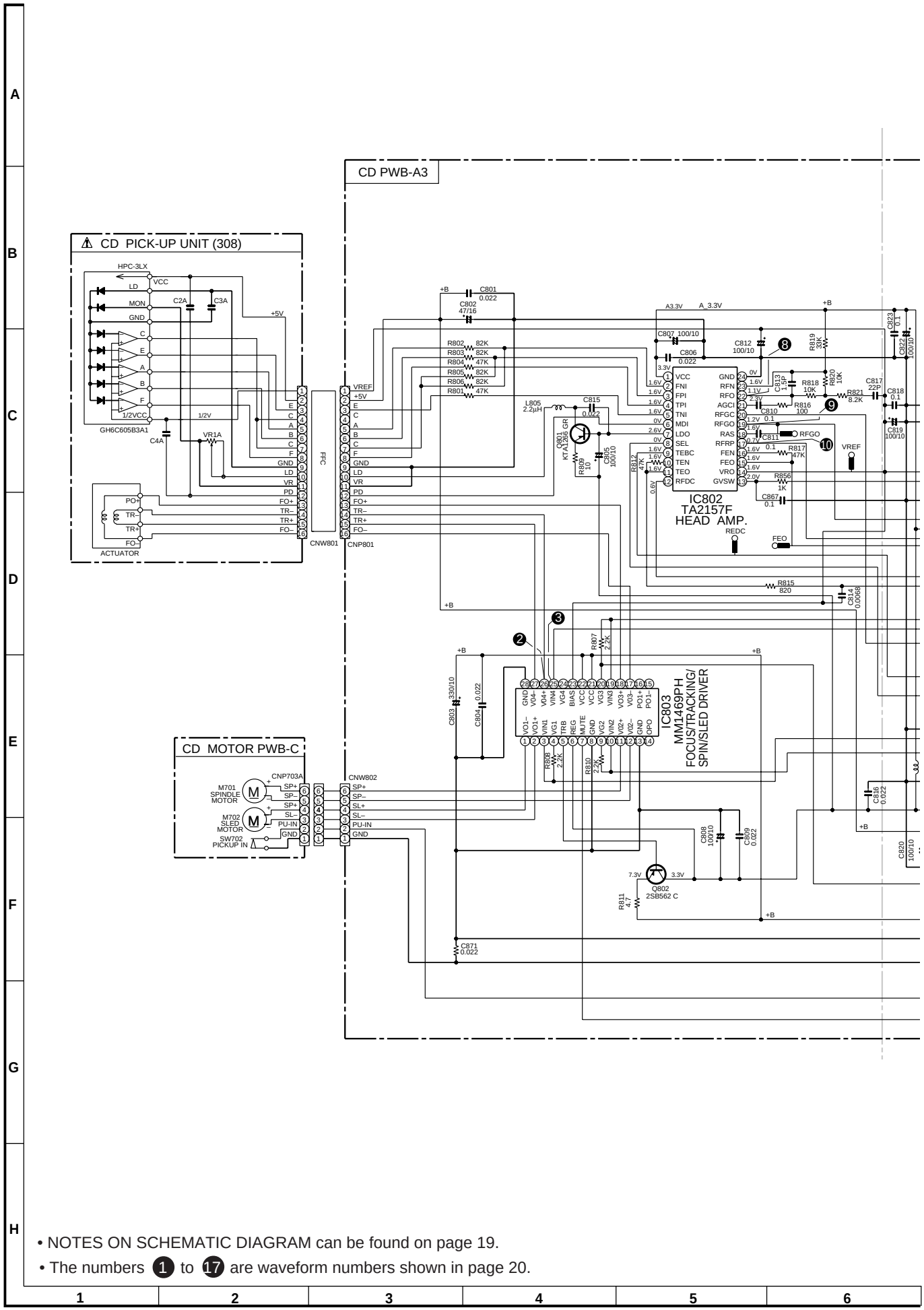
• NOTES ON SCHEMATIC DIAGRAM can be found on page 19.

Figure 24 SCHEMATIC DIAGRAM (1/8)



7	8	9	10	11	12

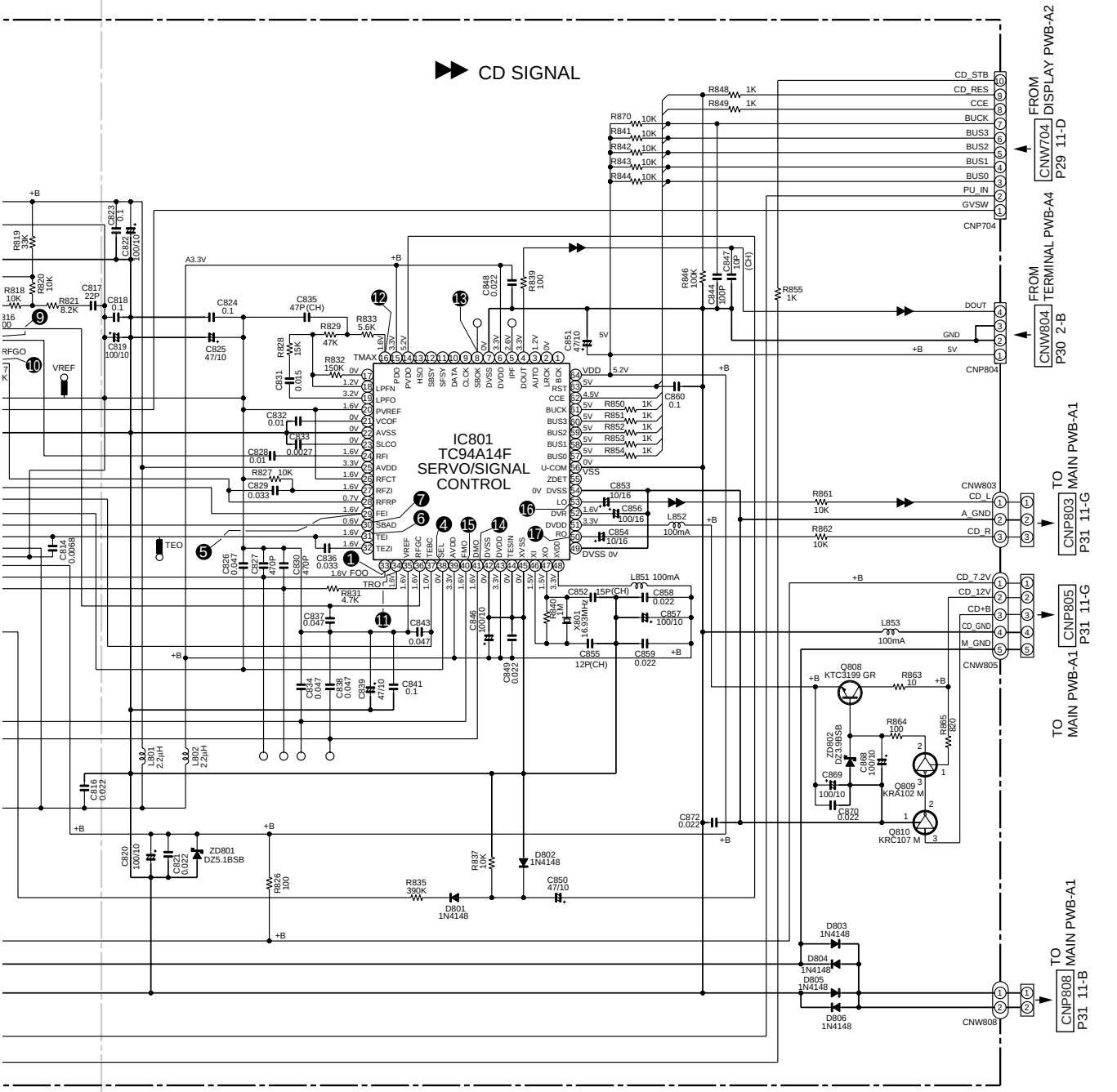
Figure 25 SCHEMATIC DIAGRAM (2/8)



• NOTES ON SCHEMATIC DIAGRAM can be found on page 19.

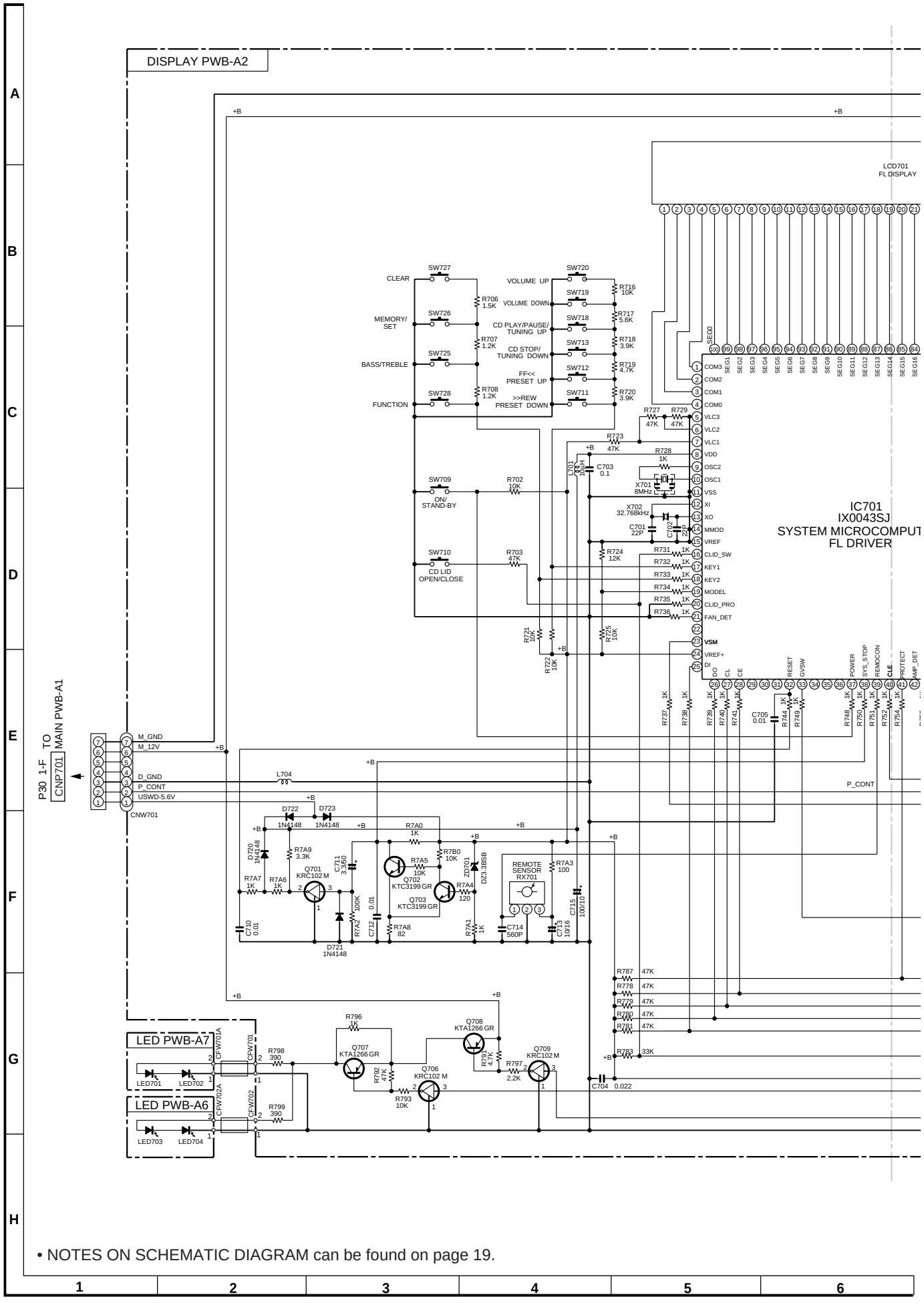
• The numbers ❶ to ⓱ are waveform numbers shown in page 20.

Figure 26 SCHEMATIC DIAGRAM (3/8)



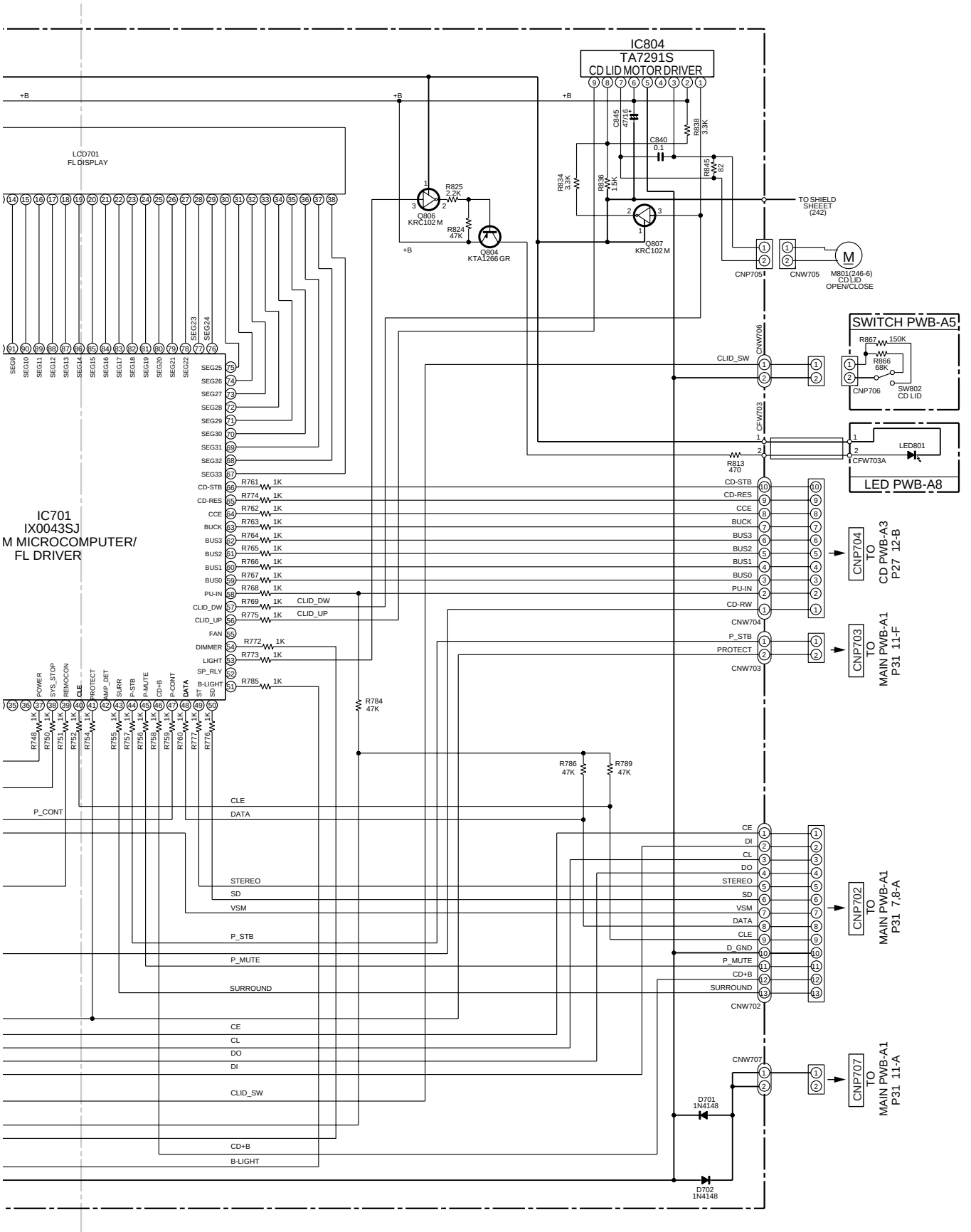
7	8	9	10	11	12

Figure 27 SCHEMATIC DIAGRAM (4/8)



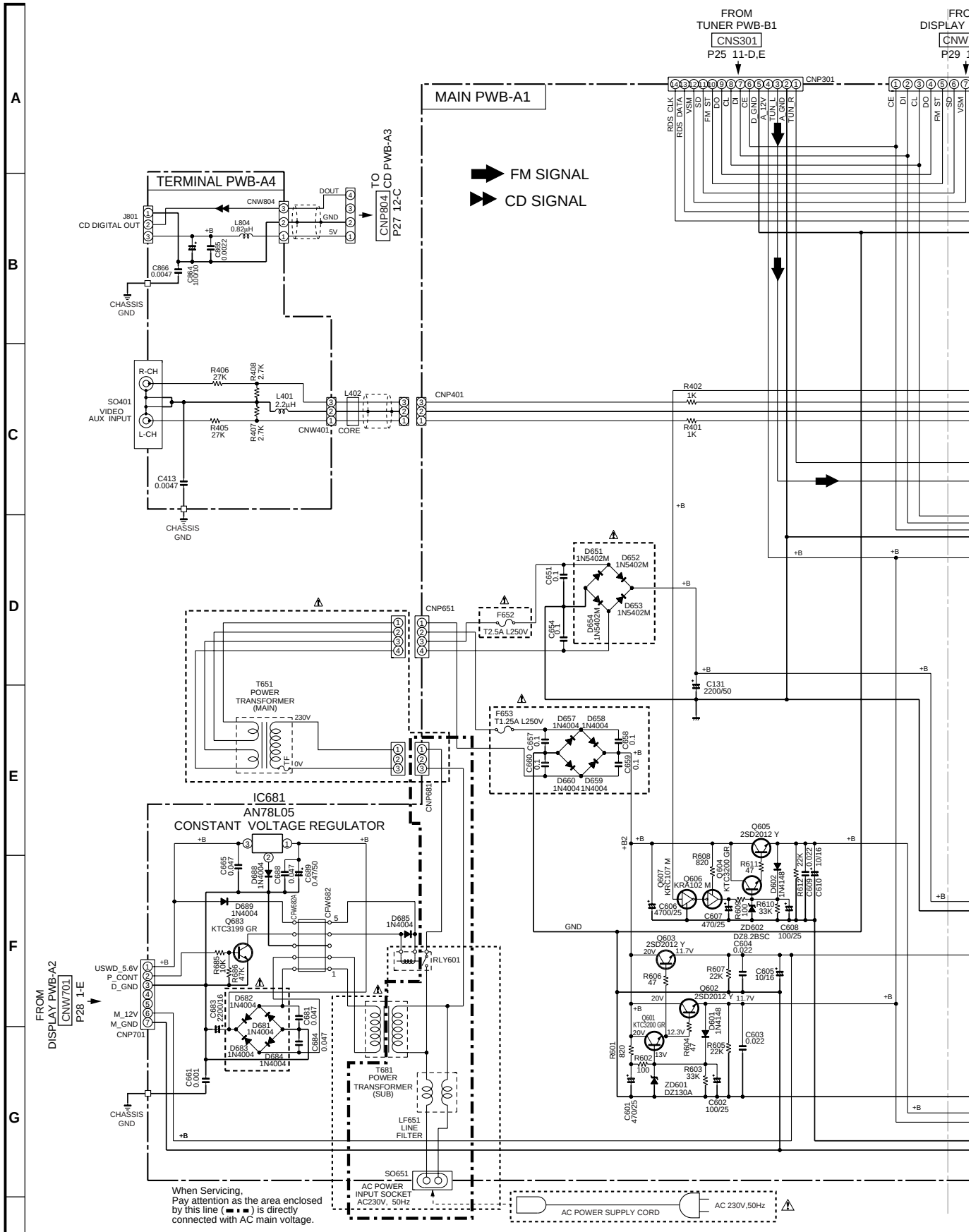
• NOTES ON SCHEMATIC DIAGRAM can be found on page 19.

Figure 28 SCHEMATIC DIAGRAM (5/8)



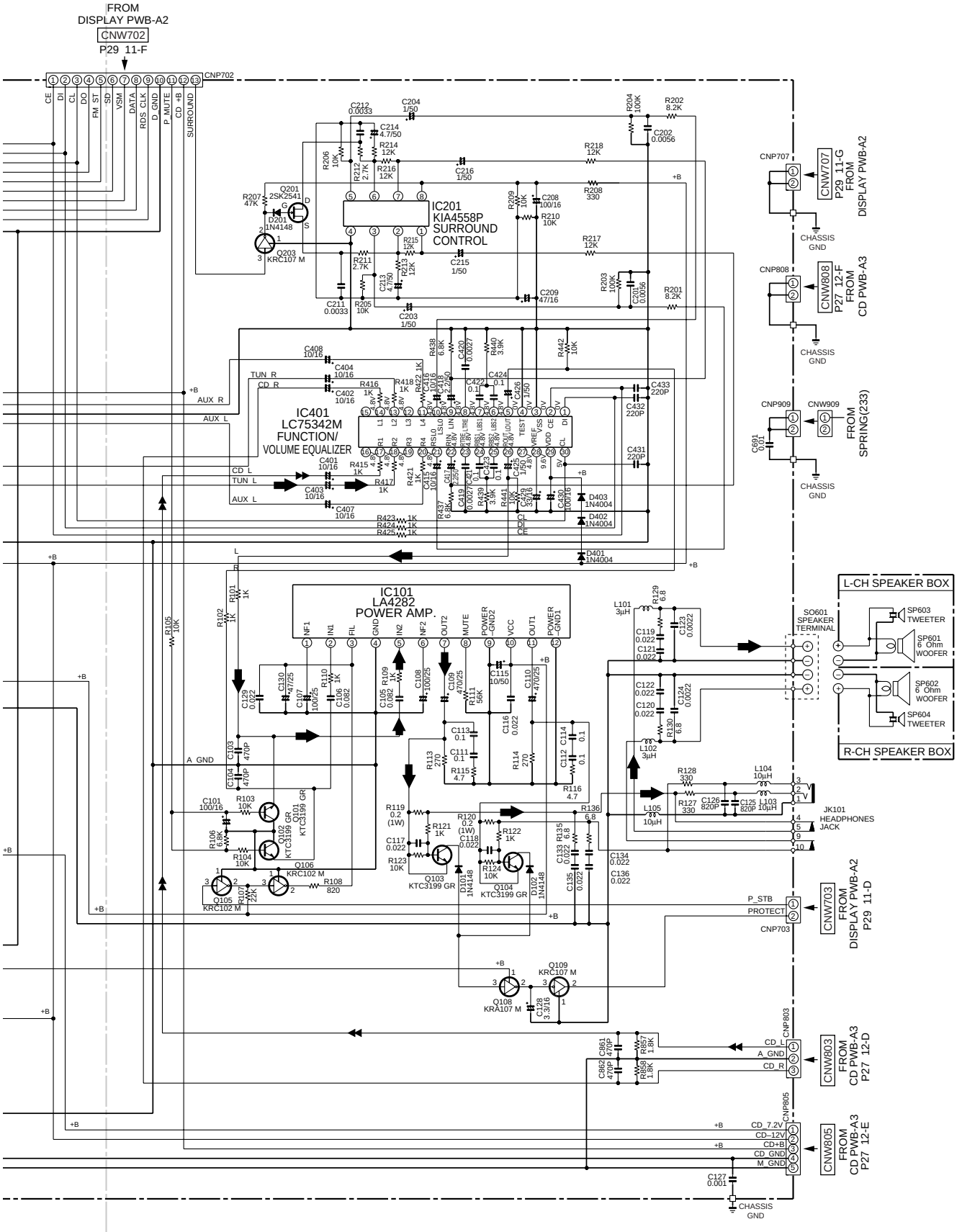
7	8	9	10	11	12

Figure 29 SCHEMATIC DIAGRAM (6/8)



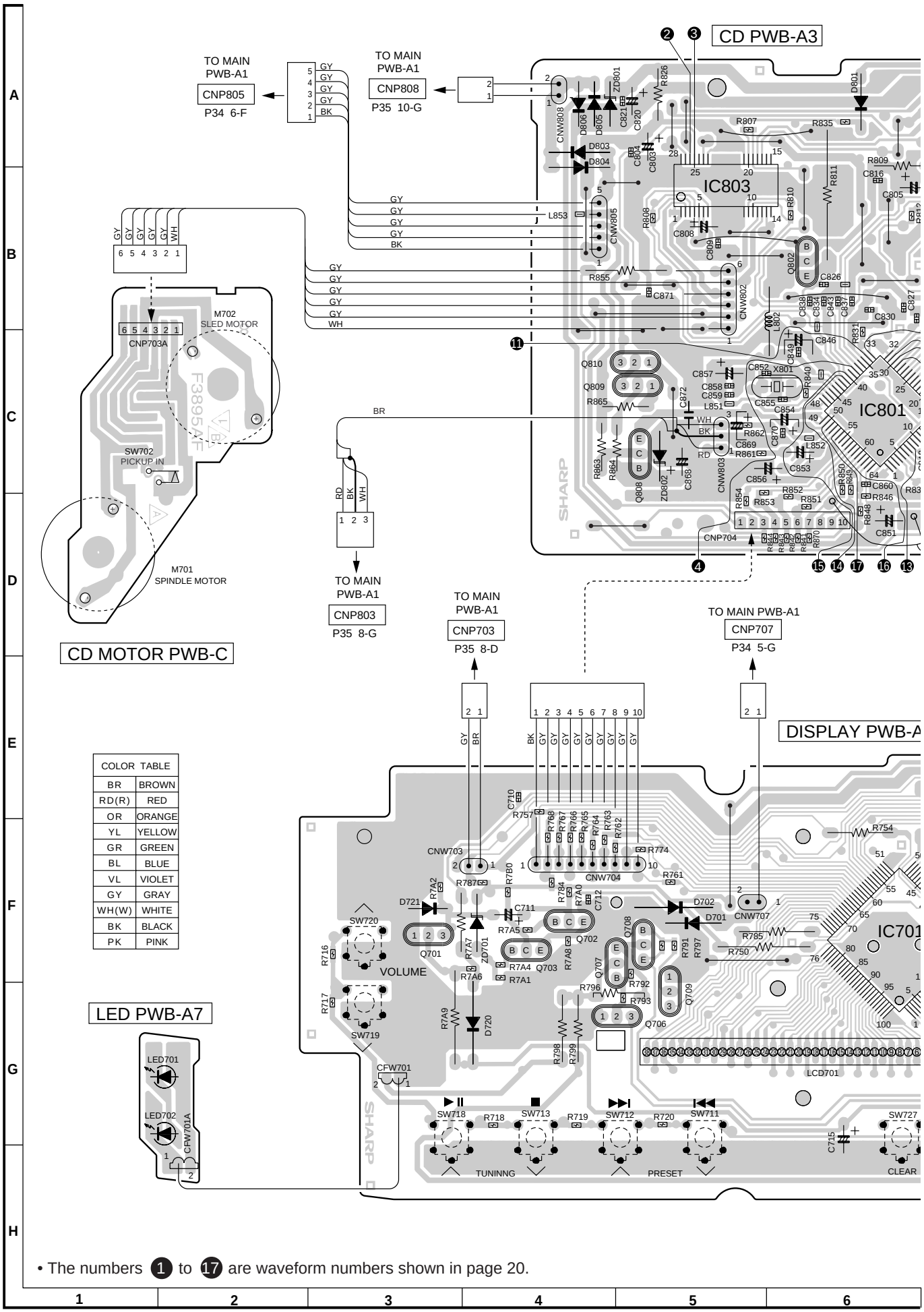
• NOTES ON SCHEMATIC DIAGRAM can be found on page 19.

Figure 30 SCHEMATIC DIAGRAM (7/8)



7	8	9	10	11	12

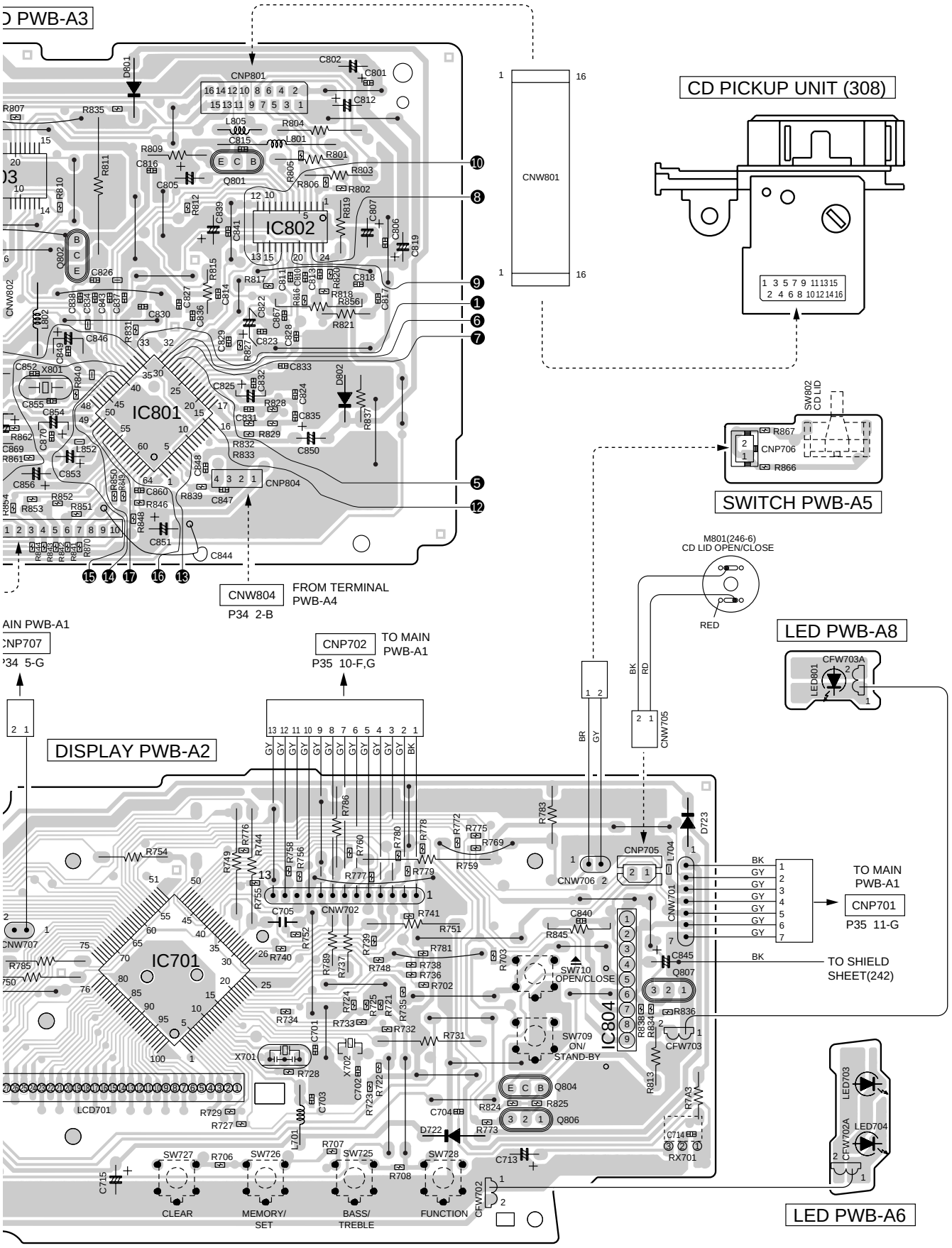
Figure 31 SCHEMATIC DIAGRAM (8/8)



COLOR TABLE	
BR	BROWN
RD(R)	RED
OR	ORANGE
YL	YELLOW
GR	GREEN
BL	BLUE
VL	VIOLET
GY	GRAY
WH(W)	WHITE
BK	BLACK
PK	PINK

• The numbers ❶ to ⓱ are waveform numbers shown in page 20.

Figure 32 WIRING SIDE OF P.W.BOARD (1/4)



7	8	9	10	11	12

Figure 33 WIRING SIDE OF P.W.BOARD (2/4)

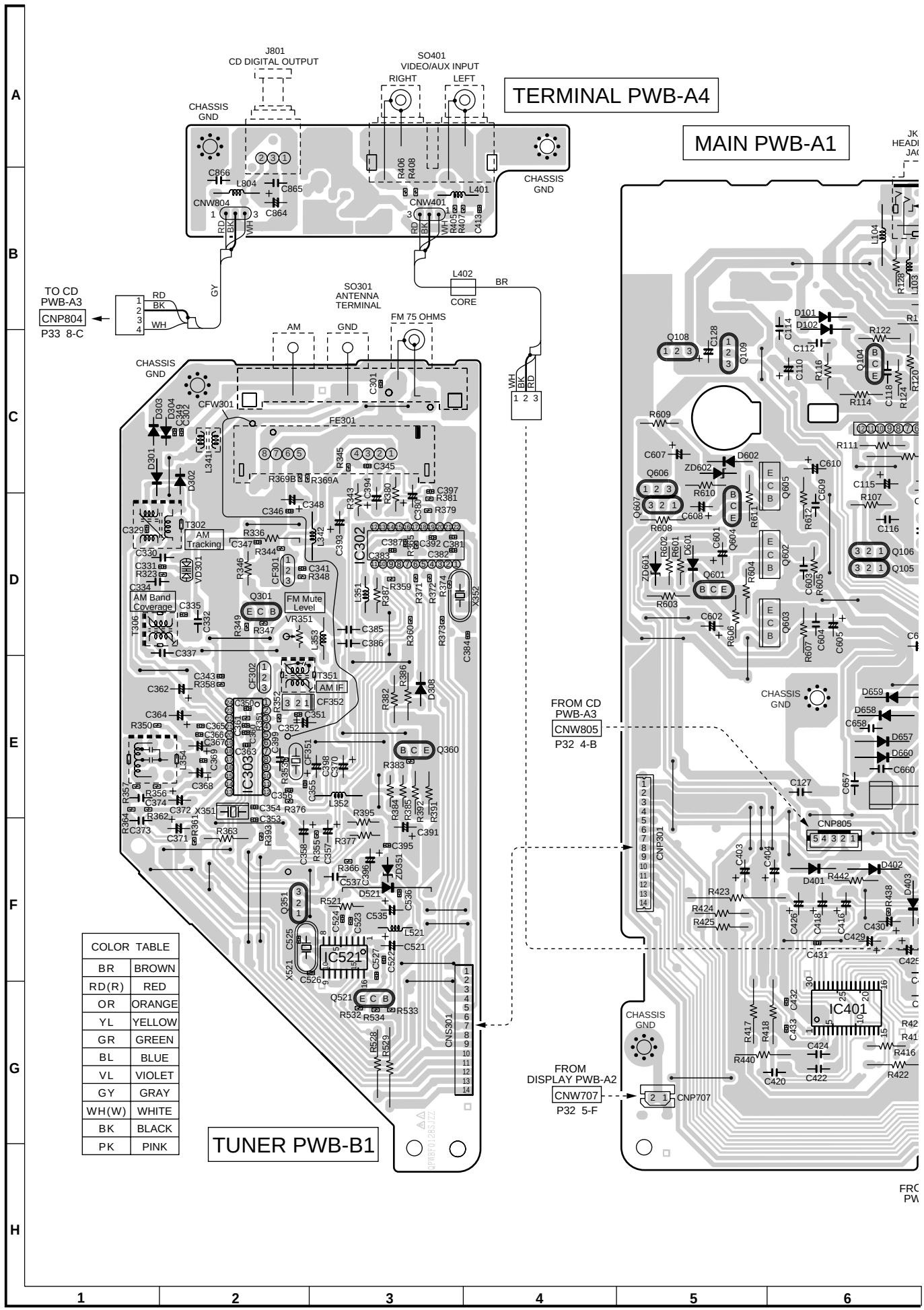
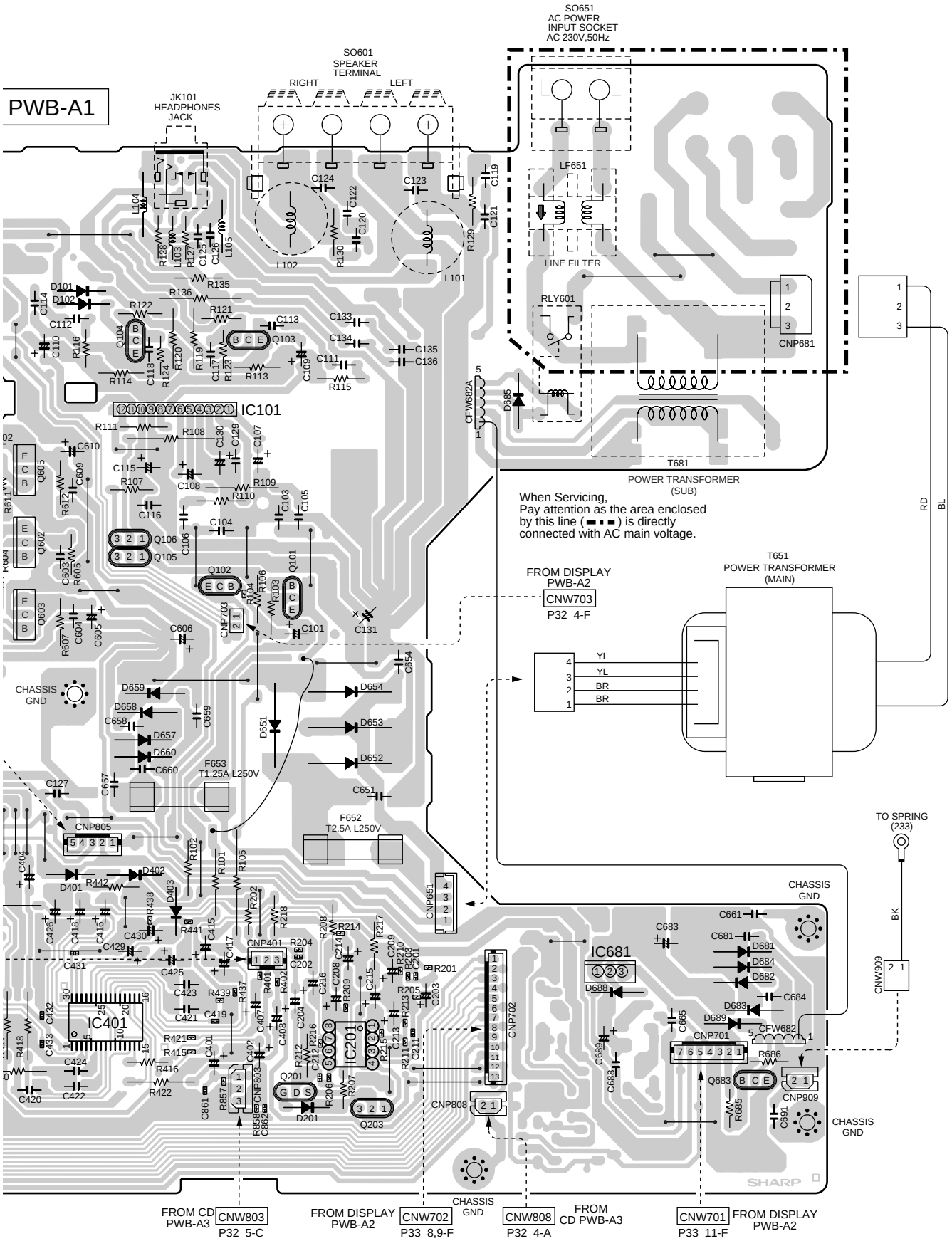


Figure 34 WIRING SIDE OF P.W.BOARD (3/4)



7	8	9	10	11	12

Figure 35 WIRING SIDE OF P.W.BOARD (4/4)

TROUBLESHOOTING

When the CD does not function

When the CD section does not operate when the objective lens of the optical pickup is dirty, this section may not operate. Clean the objective lens, and check the playback operation. When this section does not operate even after the above step is taken,check the following items.
Remove the cabinet and follow the troubleshooting instructions.
"Track skipping and/or no TOC (Table Of Contents) may be caused by build up of dust other foreign matter on the laser pickup lens. Before attempting any adjustment make certain that the lens is clean. If not, clean it as mentioned below."

Turn off the power, and wipe the lens softly using a cleaning paper moistened with commercially available cleaning solution so as not to damage it.
Be careful not to touch the lens with bare hands.

Dust gradually accumulates on the objective lens during use, and it may degrade performance.
To avoid this problem, use a cleaning disc designed for CD optical pickup lenses.

HOW TO USE

1. Using the brush in the cleaner cap, apply 1 or 2 drops of the cleaning fluid to the brush on the CD cleaner disc which has ▲ the mark next to it.
2. Place the CD cleaner disc onto the CD disc tray with the brush side down, then press the play button.
3. You will hear music for about 20 seconds and the CD player will automatically stop. If it continues to turn, press the stop button.

CAUTION

- The CD lens cleaner should be effective for 30 - 50 operations, however if the brushes become worn out earlier then please replace the cleaner disc.
- If the CD cleaner brushes become very wet then wipe off any excess fluid with a soft cloth.
- Do not drink the cleaner fluid or allow it to come in contact with the eyes. In the event of this happening then drink and / or rinse with clean water and seek medical advice.
- The CD cleaner disc must not be used on car CD player or on computer CD ROM drives.

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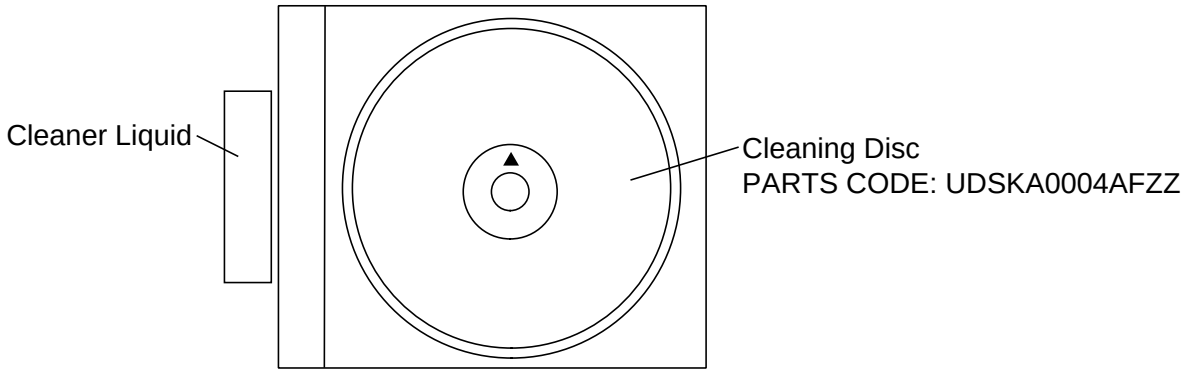
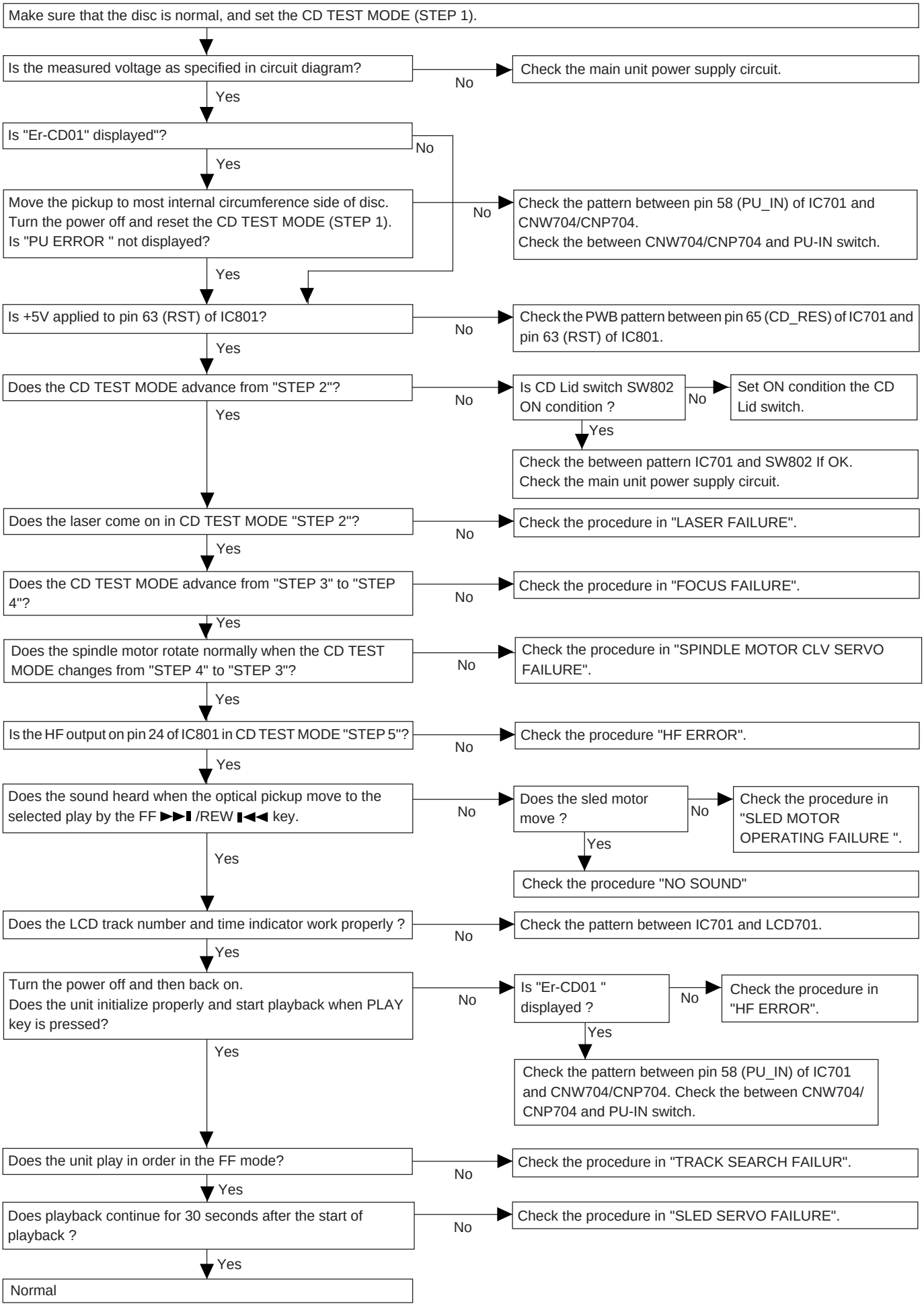



Make sure that the disc is normal, and set the CD TEST MODE (STEP 1).
Is the measured voltage as specified in circuit diagram?
No
Check the main unit power supply circuit.
Yes
Is "Er-CD01" displayed"?
No
Yes
Move the pickup to most internal circumference side of disc.
Turn the power off and reset the CD TEST MODE (STEP 1).
Is "PU ERROR " not displayed?
No
Check the pattern between pin 58 (PU_IN) of IC701 and CNW704/CNP704.
Check the between CNW704/CNP704 and PU-IN switch.
Yes
Is +5V applied to pin 63 (RST) of IC801?
No
Check the PWB pattern between pin 65 (CD_RES) of IC701 and pin 63 (RST) of IC801.
Yes
Does the CD TEST MODE advance from "STEP 2"?
No
Is CD Lid switch SW802 ON condition ?
No
Set ON condition the CD Lid switch.
Yes
Check the between pattern IC701 and SW802 If OK.
Check the main unit power supply circuit.
Yes
Does the laser come on in CD TEST MODE "STEP 2"?
No
Check the procedure in "LASER FAILURE".
Yes
Does the CD TEST MODE advance from "STEP 3" to "STEP 4"?
No
Check the procedure in "FOCUS FAILURE".
Yes
Does the spindle motor rotate normally when the CD TEST MODE changes from "STEP 4" to "STEP 3"?
No
Check the procedure in "SPINDLE MOTOR CLV SERVO FAILURE".
Yes
Is the HF output on pin 24 of IC801 in CD TEST MODE "STEP 5"?
No
Check the procedure "HF ERROR".
Yes
Does the sound heard when the optical pickup move to the selected play by the FF ▶▶▮ /REW ▮◀◀ key.
No
Does the sled motor move ?
No
Check the procedure in "SLED MOTOR OPERATING FAILURE ".
Yes
Check the procedure "NO SOUND"
Yes
Does the LCD track number and time indicator work properly ?
No
Check the pattern between IC701 and LCD701.
Yes
Turn the power off and then back on.
Does the unit initialize properly and start playback when PLAY key is pressed?
No
Is "Er-CD01 " displayed ?
No
Check the procedure in "HF ERROR".
Yes
Check the pattern between pin 58 (PU_IN) of IC701 and CNW704/CNP704. Check the between CNW704/CNP704 and PU-IN switch.
Yes
Does the unit play in order in the FF mode?
No
Check the procedure in "TRACK SEARCH FAILUR".
Yes
Does playback continue for 30 seconds after the start of playback ?
No
Check the procedure in "SLED SERVO FAILURE".
Yes
Normal

• Laser failure.

Is +7.2V applied to the pin 1 of CNW805 ?
- No → Check the PWB pattern between emiter of Q605 and CNP805/ CNW805.
- Yes ↓

Is +5V applied to the cathode side of ZD801 ?
- No → Check the peripheral parts of ZD801,C802 and C821.
- Yes ↓

Is +5V applied to the pin 64 (VDD) of IC801 ?
- No → Check the PWB pattern between cathode side of ZD801 and pin 64 of IC801.
- Yes ↓

Is +3.3V applied to the pin 1 (VCC) of IC802 ?
- No → Check the PWB pattern between collector of Q802 and pin 1 of IC802.
- Yes ↓

Is 0V applied to the pin 38 (SEL) of IC801 ?
- No → Does the laser come on when pattern cut between pin 8 (SEL) of IC802 and pin 38 (SEL) of IC801 ?
  - Yes → Check the PWB pattern between IC701 and IC801 (BUCK/CCE/ BUS0~3)
  - No ↓
- Yes ↓

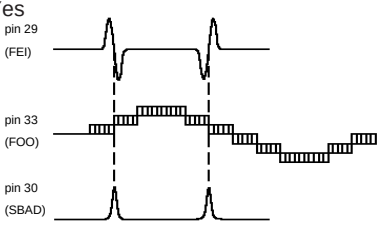
Is approx. 2V applied to the collector of Q801.
- No → Check the peripheral parts of IC802 and Q801. If it is normal, the optical pickup is faulty.
- Yes ↓

Check CNP801/CNW801. If it is normal, the optical pickup is faulty.

• Focus failure.

Does the optical pickup move up and down when the disc is removed?
- No → Check as stated in item "FOCUS SERVO SAWTOOTH WAVE FAILURE".
- Yes ↓

Is the following waveform ouput at the pin 29 (FEI) of IC801 when the disc is set?
- No → Check the periphery of IC802 and CNP801/CNW801. Is it normal?
  - Yes → The optical pickup is faulty.
- Yes ↓

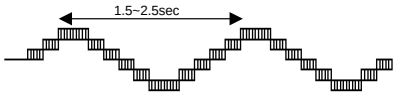


Is the waveform shown above input at the pin 30 (SBAD) of IC801?
- No → Check the pattern between pin 12 of IC802 and pin 30 of IC801. Check the periphery of IC802 and CNP801/CNW801.
- Yes ↓

IC802 is faulty.

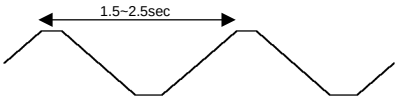
• Focus servo sawtooth wave failure.

Is sawtooh wave output to the pin 33 (FOO) of IC801 ?
No → IC801 is faulty.
Yes



Is +7.0V applied to the pins 21 and 22 (VCC) of IC803 ?
No → Check the PWB pattern between pin emiter of Q605 and IC803.
Yes

Is sawtooth wave obtained between pins 17 and 18 of IC803 ?
No → Is +5V applied to the pin 7 (MUTE) of IC803 ?
No → Check the PWB pattern between pin 7 of IC803 and pin 66 (CD STB) of IC701.
Yes → Check the PWB pattern between pin 33 (FOO) of IC801 and pins 19 and 20 of IC803. If OK. IC803 is faulty.
Yes



Is sawtooth wave obtained between pins 13 and 16 of CNP801/CNW801 ? (as shown above)
No → Check the PWB pattern between CNP801/CNW801 and IC803.
Yes

CNP801/CNW801 connection failure or optical pickup failure.

• Spindle motor clv servo failure.

Is following wave output to the pin 41 (DMO) of IC801 when the CD TEST MODE "STEP 3" is changed to " STEP 4" ?
No → Check the procedure in "HF ERROR". If OK. IC801 is faulty.
Yes

Is above wave obtained between pins 1 and 2 of IC803 ?
No → Check the PWB pattern between pin 41 (DMO) of IC801 and pins 9 and 10 of IC803. If OK. IC803 is faulty.
Yes

Is above wave obtained between pins 9 and 12 of CNP801/ CNW801 ?
No → Check the PWB pattern between CNP801/CNW801 and IC803.
Yes

CNP801/CNW801 connection failure or optical pickup failure.

• HF error.

Is output (tracking error signal) obtained at the pins 31 (TEI) and 32 (TEZI) of IC801 the CD TEST MODE "STEP 4" is changed to "STEP 5"?

No → Is output obtained at the pins 3 and 8 of CNP801/CNW801.

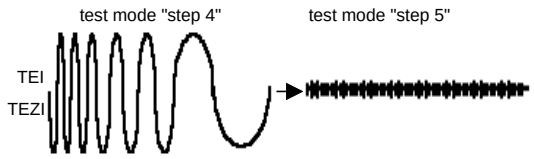
No → Optical pickup failure.

Yes → Check the periphery of IC802. Check the PWB pattern between pin 11 (TEO) of IC802 and pins 31 and 32 of IC801. Is it normal ?

No → IC802 is faulty.

Yes → Check the PWB pattern between pin 34 (TRO) of IC801 and pin 25 of IC803. Check the periphery of IC803 and CNP801/CNW801. If OK. Optical pickup failure.

Yes



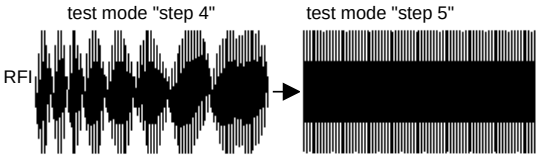
Is output (HF signal) obtained at the pin 24 (RFI) of IC801 when the CD TEST MODE "STEP 4" is changed to "STEP 5"?

No → Is output obtained at the pins 4 and 5,6 of CNP801/CNW801.

No → Optical pickup failure.

Yes → Check the periphery of IC802. Check the PWB pattern between pin 19 (RFGO) of IC802 and pins 24 (RFI) of IC801. If OK. IC802 is faulty

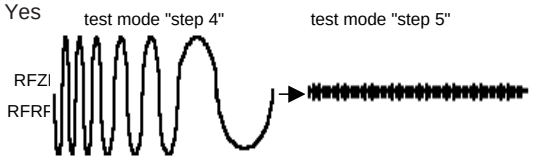
Yes



Is output (HF signal) obtained at the pins 27 (RFZI) and 28 (RFRP) of IC801 when the CD TEST MODE "STEP 4" is changed to "STEP 5"?

No → Check the periphery of IC802. Check the PWB pattern between pin17 (RFRP) of IC802 and pins 27 (RFZI) and 28 (RFRP) of IC801. If OK. IC802 is faulty.

Yes



Is the following wave output to the pin 41 (DMO) of IC801 when the CD TEST MODE "STEP 4" or "STEP 5"?

No → Check the periphery pins 15~19 of IC801. If OK. IC801 failure.

Yes

Normal.

• No sound.

No sound from both L and R-ch?

No → Check the interval between the pins 50 or 53 of IC801 and the pins 2 or 5 of IC101.

Yes

Is +3.3V applied to pin 51 (DVDD) of IC801?

No → Check the PWB pattern between pin 51 of IC801 and Q808.

Yes

Is signal of pins 50 and 53 of IC801 output?

No → Check the peripheral parts of IC801. If OK, IC801 is faulty.

Yes

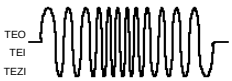
The main PWB is faulty.

• Track search failure

Does the sled motor run in FF/REW state when the SERVO TEST MODE "STEP1" is set?
- No → Check as stated in item "SLED MOTOR OPERATION FAILURE".
- Yes ↓

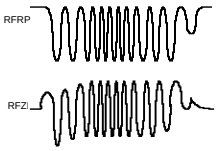
Is the following wave output to the pin 34 (TRO) of IC801 during track search in normal playback?
- No → IC801 failure.
- Yes ↓

Is the following wave output to the pins 11 (TEO) of IC802 during track search in normal playback?
- No → Check the PWB pattern between pin 34 (TRO) of IC801 and pin 25 of IC803. Check the PWB pattern between pins 26 and 27 of IC803 and Optical pickup. If OK. Optical pickup failure.
- Yes ↓



Is the above wave output to the pins 31 (TEI) and 32 (TEZI) of IC801 during track serch in normal playback?
- No → Check the PWB pattern between pin 11 (TEO) of IC802 and pins 31 and 32 of IC801. If OK. IC802 failure.
- Yes ↓

Is the following wave output to the pin 27 (RFZI) and 28 (RFRP) of IC801 during track search in normal playback?
- No → Check the PWB pattern between pins 22 (RFO),17 (RFRP), 19 (RFGO) and 20 (RFGC) of IC802 and pins 24,27,28 and 36 of IC801. If OK. IC802 failure.
- Yes ↓

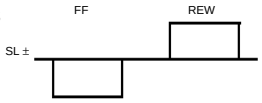


Normal.

• Sled motor operation failure.

Is following sled feed signal output the pin 40 (FMO) of IC801 when FF ▶▶▮ /REW ▮◀◀ key is pressed after the CD TEST MODE "STEP 1" is seted?
- No → C801 is faulty.
- Yes ↓

Is following sled feed signal output the pins 3 and 4 of IC803 when FF ▶▶▮ /REW ▮◀◀ key is pressed after the CD TEST MODE "STEP 1" is seted?
- No → Check the PWB pattern between pin 40 of IC801 and pins 3 and 4 of IC803.
- Yes ↓



Is sled feed signal output the pins 1 and 2 of IC803?
- No → Check the peripheral parts of IC803. If OK, IC803 is faulty.
- Yes ↓

Is sled feed voltage applied between both terminals of sled motor?
- No → Check the CNW802.
- Yes ↓

Check the CD mechanism (periphery of sled motor). If the sled motor does not run when DC2.0V is applied to both terminals of sled motor, the sled motor is faulty.

• Sled servo failure.

Is following sled signal output the pin 40 (FMO) of IC801 during playback?
- No → IC801 is faulty.
- Yes ↓

Normal.

FUNCTION TABLE OF IC

IC401 VHiLC75342M-1: Function/Volume Equalizer (LC75342M)

Pin No.	Port Name	Function
1	DI	Serial data and clock input pin for control.
2	CE	Chip enable pin. Data written into an internal latch in a timing of [H] -> [L]. Each analog switch is activated. Data transfer enabled at [H] level.
3	VSS	Ground pin.
4	TEST	Electronic volume control pin. To be set to the VSS potential.
5	LOUT	Volume + equalizer output pin.
6	LBASS2	Bass-band filter comprising capacitor and resistor connection pin.
7	LBASS1	Bass-band filter comprising capacitor and resistor connection pin.
8	LTRE	Capacitor connection pin comprising treble band filter.
9	LIN	Volume + equalizer input pin.
10	LSEL0	Input selector output pin.
11	L4	Input signal pin.
12*	L3	Input signal pin.
13	L2	Input signal pin.
14	L1	Input signal pin.
15*	NC	No CONNECT pin. To be open or connected to VSS.
16*	NC	No CONNECT pin. To be open or connected to VSS.
17	R1	Input signal pin.
18	R2	Input signal pin.
19*	R3	Input signal pin.
20	R4	Input signal pin.
21	RSEL0	Input selector output pin.
22	RIN	Volume + equalizer input pin.
23	RTRE	Capacitor connection pin comprising treble band filter.
24	RBASS1	Bass-band filter comprising capacitor and resistor connection pin.
25	RBASS2	Bass-band filter comprising capacitor and resistor connection pin.
26	ROUT	Volume + equalizer output pin.
27*	NC	No CONNECT pin. To be open or connected to VSS.
28	Vref	0.5 x VDD voltage generation block for analog ground. Capacitor of several 10µF to be connected between Vref and AWSS (VSS) as a counter measure against power ripple.
29	VDD	Supply pin.
30	CL	Serial data and clock input pin for control.

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC401 VHiLC75342M-1: Function/Volume Equalizer (LC75342M)

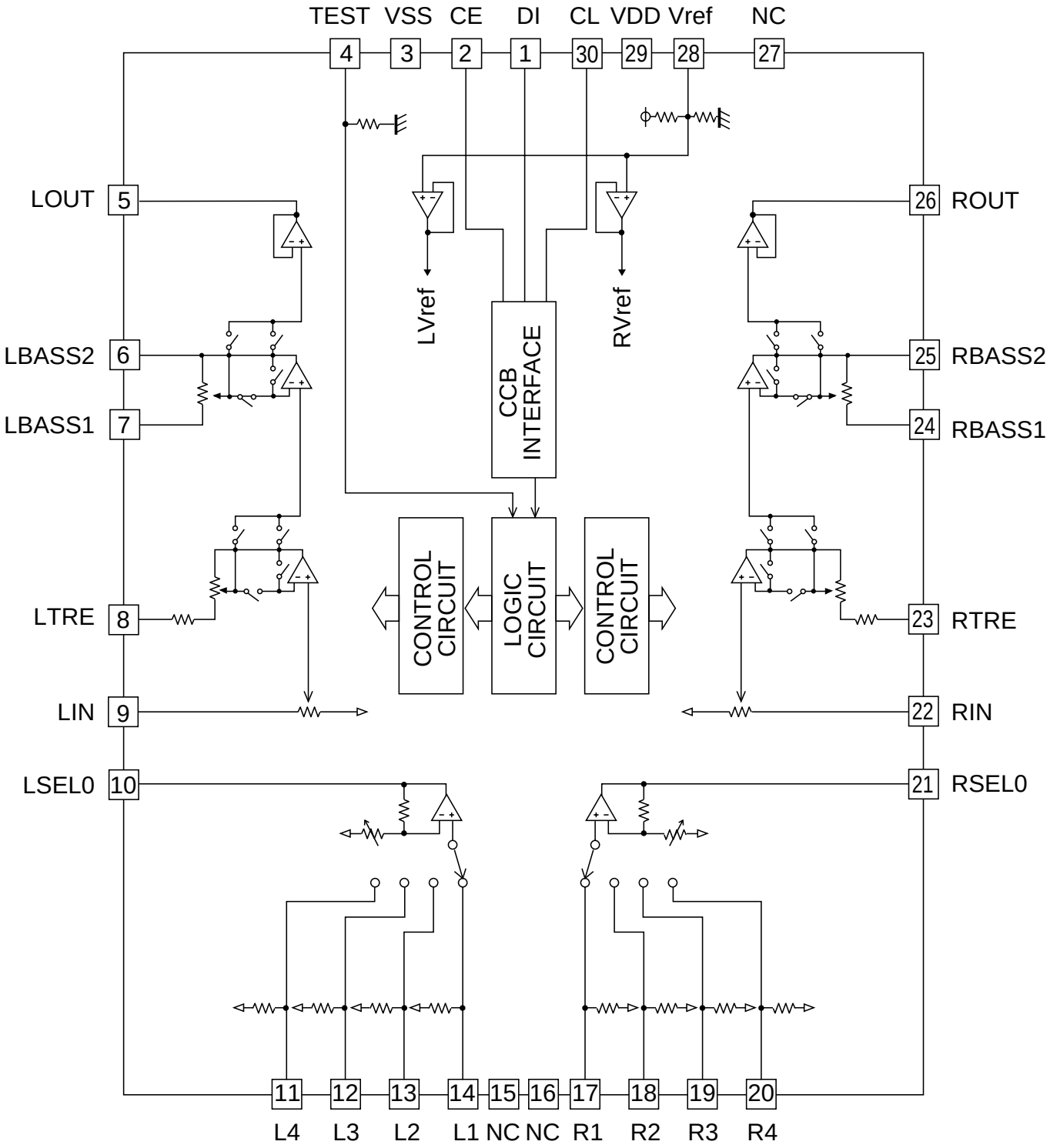
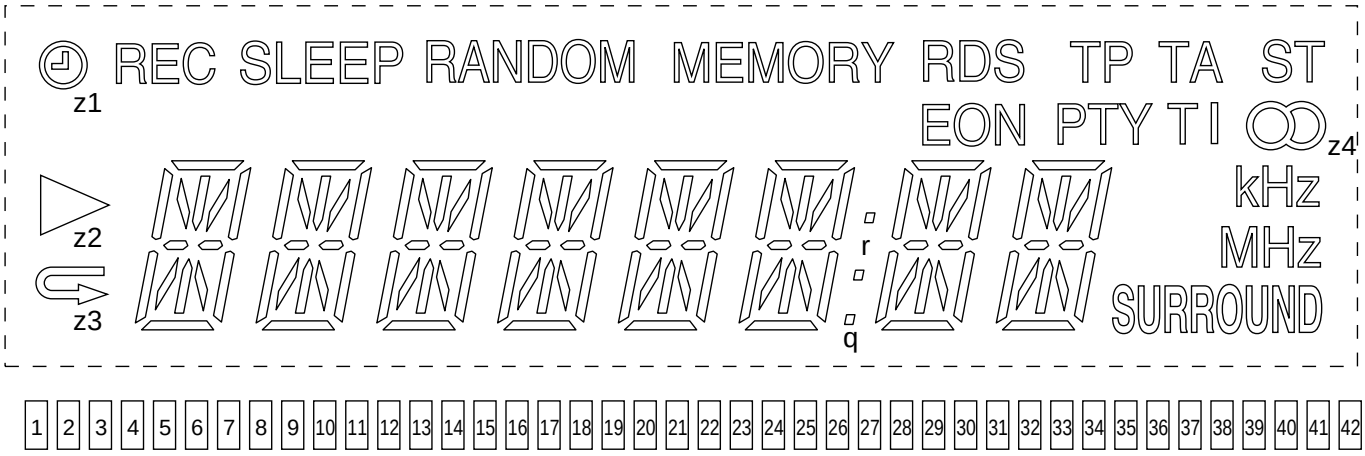


Figure 43 BLOCK DIAGRAM OF IC

LCD701: RV-LX0015SJZZ LCD Display



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42

PinNo	com1	com2	com3	com4
1	com1			
2		com2		
3			com3	
4				com4
5	z1	b1	c1	z2
6	h1	j1	l1	k1
7	g1	n1	m1	d1
8	a1	p1	f1	e1
9	REC	b2	c2	z3
10	h2	j2	l2	k2
11	g2	n2	m2	d2
12	a2	p2	f2	e2
13	SLEEP	b3	c3	MHz
14	h3	j3	l3	k3
15	g3	n3	m3	d3
16	a3	p3	f3	e3
17	RANDOM	b4	c4	kHz
18	h4	j4	l4	k4
19	g4	n4	m4	d4
20	a4	p4	f4	e4
21	MEMORY	b5	c5	z4

PinNo	com1	com2	com3	com4
22	h5	j5	l5	k5
23	g5	n5	m5	d5
24	a5	p5	f5	e5
25	RDS	b6	c6	ST
26	h6	j6	l6	k6
27	g6	n6	m6	d6
28	a6	p6	f6	e6
29	r	b7	c7	q
30	h7	j7	l7	k7
31	g7	n7	m7	d7
32	a7	p7	f7	e7
33	TP	b8	c8	
34	h8	j8	l8	k8
35	g8	n8	m8	d8
36	a8	p8	f8	e8
37	EON	PTY	TI	TA
38				SRS(0)
39				com4
40			com3	
41		com2		
42	com1			

Figure 44 LCD SEGMENT

SHARP PARTS GUIDE

COMPACT AUDIO SYSTEM

MODEL XL-1500H

XL-1500H Compact Audio System consisting of XL-1500H (main unit) and CP-XL1500H (speaker system).

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER
2. REF. No.
3. PART NO.
4. DESCRIPTION

★ MARK: SPARE PARTS-DELIVERY SECTION

For U.S.A. only

Contact your nearest SHARP Parts Distributor to order.

For location of SHARP Parts Distributor,
Please call Toll-Free;
1-800-BE-SHARP

Explanation of capacitors/resistors parts codes

Capacitors

VCC ..... Ceramic type
VCK ..... Ceramic type
VCT ..... Semiconductor type
VC • • MF ..... Cylindrical type (without lead wire)
VC • • MN ..... Cylindrical type (without lead wire)
VC • • TV ..... Square type (without lead wire)
VC • • TQ ..... Square type (without lead wire)
VC • • CY ..... Square type (without lead wire)
VC • • CZ ..... Square type (without lead wire)
VC • • • • • • • • • J .. The 13th character represents capacity difference.
("J" ±5%, "K" ±10%, "M" ±20%, "N" ±30%,
"C" ±0.25 pF, "D" ±0.5 pF, "Z" +80-20%.)

If there are no indications for the electrolytic capacitors, error is ±20%.

Resistors

VRD ..... Carbon-film type
VRS ..... Carbon-film type
VRN ..... Metal-film type
VR • • MF ..... Cylindrical type (without lead wire)
VR • • MN ..... Cylindrical type (without lead wire)
VR • • TV ..... Square type (without lead wire)
VR • • TQ ..... Square type (without lead wire)
VR • • CY ..... Square type (without lead wire)
VR • • CZ ..... Square type (without lead wire)
VR • • • • • • • • • J .. The 13th character represents error.
("J" ±5%, "F" ±1%, "D" ±0.5%.)

If there are no indications for other parts, the resistors are ±5% carbon-film type.

NOTE:
Parts marked with "⚠" are important for maintaining the safety of the set.
Be sure to replace parts with specified ones for maintaining the safety and performance of the set.

NO.	PART CODE	★	PRICE RANK	DESCRIPTION

INTEGRATED CIRCUITS

IC101	VHILA4282//-1	J	AM	Power Amp.,LA4282
IC201	VHIKIA4558P-1	J	AC	Surround Control ,KIA4558P
IC302	VHILC72131/-1	J	AP	PLL (Tuner),LC72131
IC303	VHILA1832S/-1	J	AN	FM IF Det./FM Mpx./AM IF, LA1832S
IC401	VHILC75342M-1	J	AN	Function/Volume Equalizer, LC75342M
IC521	VHILC72723M-1	J	AS	RDS ,LC72723M
IC681	VHIAN78L05/-1	J	AE	Constant Voltage Regulator, AN78L05
IC701	RH-IX0043SJZZ	J	AX	System Microcomputer/FL Driver, IX0043SJ
IC801	VHITC94A14F-1	J	AY	Servo/Signal Control,TC94A14F
IC802	VHITA2157F/-1	J	AN	Head Amp.,TA2157F
IC803	VHIMM1469PH-1	J		Focus/Tracking/Spin/Sled Driver, MM1469PH
IC804	VHITA7291S/-1	J	AH	CD LID Motor Driver,TA7291S

TRANSISTORS

Q101~104	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q105,106	VSKRC102M//-1	J	AC	Digital,NPN,KRC102 M
Q108	VSKRA107M//-1	J	AE	Digital,PNP,KRA107 M
Q109	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q201	VS2SK2541//-1	J	AC	FET,2SK2541
Q203	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q301	VS2SC380-O/-1	J	AC	Silicon,NPN,2SC380 O
Q351	VSKRC104M//-1	J	AC	Digital,NPN,KRC104 M
Q360	VSKTA1266GR-1	J	AB	Silicon,PNP,KTA1266 GR
Q521	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q601	VSKTC3200GR-1	J	AC	Silicon,NPN,KTC3200 GR
Q602,603	VS2SD2012Y/-1	J	AF	Silicon,NPN,2SD2012 Y
Q604	VSKTC3200GR-1	J	AC	Silicon,NPN,KTC3200 GR
Q605	VS2SD2012Y/-1	J	AF	Silicon,NPN,2SD2012 Y
Q606	VSKRA102M//-1	J	AC	Digital,PNP,KRA102 M
Q607	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q683	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q701	VSKRC102M//-1	J	AC	Digital,NPN,KRC102 M
Q702,703	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q706	VSKRC102M//-1	J	AC	Digital,NPN,KRC102 M
Q707,708	VSKTA1266GR-1	J	AB	Silicon,PNP,KTA1266 GR
Q709	VSKRC102M//-1	J	AC	Digital,NPN,KRC102 M
Q801	VSKTA1266GR-1	J	AB	Silicon,PNP,KTA1266 GR
Q802	VS2SB562-C/-1	J	AD	Silicon,PNP,2SB562 C
Q804	VSKTA1266GR-1	J	AB	Silicon,PNP,KTA1266 GR
Q806,807	VSKRC102M//-1	J	AC	Digital,NPN,KRC102 M
Q808	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q809	VSKRA102M//-1	J	AC	Digital,PNP,KRA102 M
Q810	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M

DIODES

D101,102	VHD1N4148//-1	J	AA	Silicon,1N4148
D201	VHD1N4148//-1	J	AA	Silicon,1N4148
D301~304	VHD1N4148//-1	J	AA	Silicon,1N4148
D308	VHD1N4148//-1	J	AA	Silicon,1N4148
D401~403	VHD1N4004//-1	J	AB	Silicon,1N4004
D521	VHD1N4148//-1	J	AA	Silicon,1N4148
D601,602	VHD1N4148//-1	J	AA	Silicon,1N4148
⚠ D651~654	VHD1N5402M/-1	J	AE	Silicon,1N5402M
⚠ D657~660	VHD1N4004//-1	J	AB	Silicon,1N4004
⚠ D681~685	VHD1N4004//-1	J	AB	Silicon,1N4004
D688,689	VHD1N4004//-1	J	AB	Silicon,1N4004
D701,702	VHD1N4148//-1	J	AA	Silicon,1N4148
D720~723	VHD1N4148//-1	J	AA	Silicon,1N4148
D801~806	VHD1N4148//-1	J	AA	Silicon,1N4148
LED701~704	VHPSLI343YC-1	J	AF	LED,SLI343YC
LED801	VHPSYD5310+-1	J	AF	LED,SYD5310
VD301	VHCSVC348S/-1	J	AK	Variable Capacitance,SVC348S
ZD351	VHEDZ5R1BSB-1	J	AC	Zener,5.1V,DZ5.1BSB
ZD601	VHEDZ130BSA-1	J	AC	Zener,13V,DZ130A
ZD602	VHEDZ8R2BSC-1	J	AB	Zener,8.2V,DZ8.2BSC
ZD701	VHEDZ3R3BSB-1	J	AB	Zener,3.3V,DZ3.3BSB
ZD801	VHEDZ5R1BSB-1	J	AC	Zener,5.1V,DZ5.1BSB
ZD802	VHEDZ3R9BSB-1	J	AC	Zener,3.9V,DZ3.9BSB

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION

FILTERS

CF301,302	RFILF0072AFZZ	J	AG	FM IF
CF351	RFILF0003AWZZ	J	AK	FM IF
CF352	RFILA0003SJZZ	J	AF	AM IF

TRANSFORMERS

T302	RCILA0007SJZZ	J	AG	AM Antenna
T306	RCILB0009SJZZ	J	AG	AM OSC.
T351	RCILI0004SJZZ	J	AF	AM IF
⚠ T651	RTRNP0084SJZZ	J	AV	Power Transformer (Main)
⚠ T681	RTRNP0057SJZZ	J	AL	Power Transformer (Sub)

COILS

L101,102	RCILZ0024AWZZ	J	AC	3 µH,Choke
L103~105	VP-DH100K0000	J	AB	10 µH,Choke
L341	RBLN-0001AWZZ	J	AD	Balun
L342	VP-DH2R2K0000	J	AB	2.2 µH,Peaking
L351,352	VP-DH101K0000	J	AB	100 µH,Choke
L353	VP-DH102K0000	J	AB	1 mH,Choke
L354	RFILL0001AWZZ	J	AE	Low Pass Filter
L401	VP-DH2R2K0000	J	AB	2.2 µH,Peaking
L402	RCORF0018AWZZ	J	AG	Core
L521	VP-DH2R2K0000	J	AB	2.2 µH,Peaking
L701	VP-DH100K0000	J	AB	10 µH,Choke
L704	RCILC0353AFZZ	J	AB	Tip Solid Induction,100mA
L801,802	VP-DH2R2K0000	J	AB	2.2 µH,Peaking
L804	VP-XHR82K0000	J	AC	0.82 µH
L805	VP-DH2R2K0000	J	AB	2.2 µH,Peaking
L851~853	RCILC0353AFZZ	J	AB	Tip Solid Induction,100mA
⚠ LF651	RCILZ0005SJZZ	J		Line Filter

VARIABLE RESISTOR

VR351	RVR-M0026AWZZ	J	AC	10 kohm (B),Semi-VR

VIBRATORS

X351	RCRM-0007SJZZ	J	AG	VCO,456 kHz
X352	RCRSP0006SJZZ	J	AF	Crystal,4.5 MHz
X521	RCRS0005SJ/ZZ	J		Crystal,4.332 MHz
X701	RCRM-0008SJZZ	J	AG	Ceramic,8 MHz
X702	RCRSP0007SJZZ	J	AE	Crystal,32.768 kHz
X801	RCRSP0002SJZZ	J	AL	Crystal,16.93 MHz

CAPACITORS

C101	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C103,104	VCKYPA1HB471K	J	AA	470 pF,50V
C105,106	VCQYKA1HM823J	J	AC	0.082 µF,50V,Mylar
C107,108	RC-GZA107AF1E	J	AB	100 µF,25V,Electrolytic
C109,110	RC-GZV477AF1E	J	AC	470 µF,25V,Electrolytic
C111~114	VCFYFA1HA104J	J	AC	0.1 µF,50V,Thin Film
C115	RC-GZA106AF1H	J	AB	10 µF,50V,Electrolytic
C116~122	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C123,124	VCKYPA1HB222K	J	AA	0.0022 µF,50V
C125,126	VCKYPA1HB821K	J	AA	820 pF,50V
C127	VCKYPA1HB102K	J	AA	0.001 µF,50V
C128	RC-GZA335AF1C	J	AB	3.3 µF,16V,Electrolytic
C129	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C130	RC-GZA476AF1E	J	AB	47 µF,25V,Electrolytic
C131	RC-GZW228AF1H	J	AH	2200 µF,50V,Electrolytic
C133~136	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C201,202	VCKYCY1HB562K	J	AA	0.0056 µF,50V
C203,204	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C208	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C209	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C211,212	VCKYCY1HB332K	J	AA	0.0033 µF,50V
C213,214	RC-GZA475AF1H	J	AB	4.7 µF,50V,Electrolytic
C215,216	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C301	VCKYCY1EF123Z	J		0.012µF,25V
C302	VCKYCY1HB102K	J	AA	0.001 µF,50V
C329	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C330	VCCCPA1HH8R0D	J	AA	8 pF (CH),50V
C331	VCKYCY1EF473Z	J	AB	0.047 µF,25V
C332	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C334	VCCUPA1HJ270J	J	AA	27 pF (UJ),50V

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
C335	VCKYCY1HB561K	J	AA	560 pF,50V
C337	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C341	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C343	VCCSCY1HL330J	J	AD	33 pF,50V
C345~347	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C348	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C349	VCKYCY1HB102K	J	AA	0.001 µF,50V
C350,351	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C352	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C353,354	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C355	VCCSCY1HL220J	J	AD	220 pF,50V
C356	VCKYCY1HB102K	J	AA	0.001 µF,50V
C357	RC-GZA225AF1H	J	AB	2.2 µF,50V,Electrolytic
C358	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C360,361	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C362	RC-GZA335AF1H	J	AB	3.3 µF,50V,Electrolytic
C363	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C364	RC-GZA475AF1E	J	AB	4.7 µF,25V,Electrolytic
C365	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C366	VCKYCY1HB102K	J	AA	0.001 µF,50V
C367,368	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C369	VCCSCY1HL560J	J	AD	56 pF,50V
C370	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C371,372	RC-EZD105AF1H	J	AB	1 µF,50V,Electrolytic
C373,374	VCTYPA1CX273K	J	AA	0.027 µF,16V
C380	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C381	VCCCCY1HH120J	J	AA	12 pF (CH),50V
C382	VCCCCY1HH150J	J	AA	15 pF (CH),50V
C383	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C384	VCKYCY1HB102K	J	AA	0.001 µF,50V
C385	VCKYPA1HF103Z	J	AB	0.01 µF,50V
C386	VCKYPA1HB331K	J	AA	330 pF,50V
C387	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C391	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C392	VCKYCY1HB102K	J	AA	0.001 µF,50V
C393	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C394	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C395	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C396	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C397	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C398	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C399	VCKYPA1HF473Z	J	AB	0.047 µF,50V
C401~404	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C407,408	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C413	VCKYCY1HB472K	J	AA	0.0047 µF,50V
C415,416	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C417,418	RC-GZA225AF1H	J	AB	2.2 µF,50V,Electrolytic
C419	VCKYCY1HB272K	J	AA	0.0027 µF,50V
C420	VCKYPA1HB272K	J	AA	0.0027 µF,50V
C421~424	RC-QZA104AFYJ	J	AC	0.1 µF,50V,Mylar
C425,426	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C429	RC-GZA336AF1C	J	AB	33 µF,16V,Electrolytic
C430	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C431~433	VCKYCY1HB221K	J	AA	220 pF,50V
C521	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C522	VCKYCY1HB331K	J	AA	330 pF,50V
C523	VCKYCY1EF104Z	J	AA	0.1 µF,25V
C524	VCKYCY1HB561K	J	AA	560 pF,50V
C525,526	VCCCCY1HH220J	J	AA	22 pF (CH),50V
C527	VCKYCY1EF104Z	J	AA	0.1 µF,25V
C535	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C536	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C537	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C601	RC-GZV477AF1E	J	AC	470 µF,25V,Electrolytic
C602	RC-GZA107AF1E	J	AB	100 µF,25V,Electrolytic
C603,604	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C605	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C606	RC-GZW478AF1E	J	AG	4700 µF,25V,Electrolytic
C607	RC-GZV477AF1E	J	AC	470 µF,25V,Electrolytic
C608	RC-GZA107AF1E	J	AB	100 µF,25V,Electrolytic
C609	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C610	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C651	VCFYFA1HA104J	J	AC	0.1 µF,50V,Thin Film
C654	VCFYFA1HA104J	J	AC	0.1 µF,50V,Thin Film
⚠ C657~660	VCFYFA1HA104J	J	AC	0.1 µF,50V,Thin Film
C661	VCKYPA1HB102K	J	AA	0.001 µF,50V
C665	VCFYFA1HA473J	J	AB	0.047 µF,50V,Thin Film
C681	VCFYFA1HA473J	J	AB	0.047 µF,50V,Thin Film
C683	RC-GZV228AF1C	J	AG	2200 µF,16V,Electrolytic
C684	VCFYFA1HA473J	J	AB	0.047 µF,50V,Thin Film
C688	VCFYFA1HA473J	J	AB	0.047 µF,50V,Thin Film
C689	RC-GZA474AF1H	J	AA	0.47 µF,50V,Electrolytic

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
C691	VCKYPA1HF103Z	J	AB	0.01 µF,50V
C701,702	VCCCCY1HH220J	J	AA	22 pF (CH),50V
C703	VCKYCY1EF104Z	J	AA	0.1 µF,25V
C704	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C705	VCKYPA1HF103Z	J	AB	0.01 µF,50V
C710	VCKYCY1EB103K	J	AA	0.01 µF,25V
C711	RC-GZA335AF1H	J	AB	3.3 µF,50V,Electrolytic
C712	VCKYCY1EB103K	J	AA	0.01 µF,25V
C713	RC-EZD106AF1C	J	AB	10 µF,16V,Electrolytic
C714	VCKYCY1HB561K	J	AA	560 pF,50V
C715	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C801	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C802	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C803	RC-GZA337AF1A	J	AB	330 µF,10V,Electrolytic
C804	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C805	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C806	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C807,808	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C809	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C810,811	VCKYCY1CB104K	J	AB	0.1 µF,16V
C812	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C813	VCCCCY1HH1R5C	J	AA	1.5 pF (CH),50V
C814	VCKYCY1HB682K	J	AA	0.0068 µF,50V
C815,816	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C817	VCCCCY1HH220J	J	AA	22 pF (CH),50V
C818	VCKYCY1HF104Z	J	AB	0.1 µF,50V
C819,820	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C821	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C822	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C823,824	VCKYCY1HF104Z	J	AB	0.1 µF,50V
C825	RC-GZA476AF1A	J	AB	47 µF,10V,Electrolytic
C826	VCKYCY1CB473K	J	AA	0.047 µF,16V
C827	VCCCCY1HH471J	J	AA	470 pF (CH),50V
C828	VCKYCY1HB103K	J	AA	0.01 µF,50V
C829	VCKYCY1EB333K	J	AC	0.033 µF,25V
C830	VCCCCY1HH471J	J	AA	470 pF (CH),50V
C831	VCKYCY1HB153K	J	AA	0.015 µF,50V
C832	VCKYCY1HB103K	J	AA	0.01 µF,50V
C833	VCKYCY1HB272K	J	AA	0.0027 µF,50V
C834	VCKYCY1CB473K	J	AA	0.047 µF,16V
C835	VCCCCY1HH470J	J	AA	47 pF (CH),50V
C836	VCKYCY1EB333K	J	AC	0.033 µF,25V
C837,838	VCKYCY1CB473K	J	AA	0.047 µF,16V
C839	RC-GZA476AF1A	J	AB	47 µF,10V,Electrolytic
C840	VCKYCY1EB104K	J	AD	0.1 µF,25V
C841	VCKYCY1HF104Z	J	AB	0.1 µF,50V
C843	VCKYCY1CB473K	J	AA	0.047 µF,16V
C844	VCKYPA1HB101K	J	AA	100 pF,50V
C845	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C846	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C847	VCCCCY1HH100J	J	AA	10 pF (CH),50V
C848,849	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C850,851	RC-GZA476AF1A	J	AB	47 µF,10V,Electrolytic
C852	VCCCCY1HH150J	J	AA	15 pF (CH),50V
C853,854	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C855	VCCCCY1HH120J	J	AA	12 pF (CH),50V
C856	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C857	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C858,859	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C860	VCKYCY1HF104Z	J	AB	0.1 µF,50V
C861,862	VCKYCY1HB471K	J	AA	470 pF,50V
C864	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C865	VCQYKA1HM222J	J	AB	0.0022 µF,50V,Mylar
C866	VCKYPA1HB472K	J	AB	0.0047 µF,50V
C867	VCKYCY1CB104K	J	AB	0.1 µF,16V
C868,869	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C870,871	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C872	VCKYPA1HF223Z	J	AB	0.022 µF,50V

RESISTORS

	VRS-CY1JB000J	J	AA	0 ohm,Jumper,0.8×1.55mm,Green
R7A0,A1	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R7A2	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R7A3	VRD-ST2EE101J	J	AA	100 ohm,1/4W
R7A4	VRS-CY1JB121J	J	AA	120 ohms,1/16W
R7A5	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R7A6	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R7A7	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R7A8	VRS-CY1JB820J	J	AA	82 ohms,1/16W
R7A9	VRD-ST2CD332J	J	AA	3.3 kohms,1/6W

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
R7B0	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R101,102	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R103	VRD-ST2EE103J	J	AA	10 kohm,1/4W
R104	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R105	VRD-ST2EE103J	J	AA	10 kohm,1/4W
R106	VRD-ST2EE682J	J	AA	6.8 kohms,1/4W
R107	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R108	VRD-ST2CD821J	J	AA	820 ohms,1/6W
R109,110	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R111	VRD-ST2CD563J	J	AA	56 kohms,1/6W
R113,114	VRD-RT2HD271J	J	AA	270 ohms,1/2W
R115,116	VRD-ST2EE4R7J	J	AA	4.7 ohms,1/4W
R119,120	VRS-VV3AAR20J	J	AB	0.2 ohms,1W
R121,122	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R123,124	VRD-ST2EE103J	J	AA	10 kohm,1/4W
R127,128	VRD-ST2EE331J	J	AA	330 ohms,1/4W
R129,130	VRD-ST2EE6R8J	J	AA	6.8 ohms,1/4W
R135,136	VRD-ST2EE6R8J	J	AA	6.8 ohms,1/4W
R201	VRS-CY1JB822J	J	AA	8.2 kohms,1/16W
R202	VRD-ST2EE822J	J	AA	8.2 kohms,1/4W
R203,204	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R205,206	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R207	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R208	VRD-ST2EE331J	J	AA	330 ohms,1/4W
R209,210	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R211	VRS-CY1JB272J	J	AA	2.7 kohms,1/16W
R212	VRD-ST2CD272J	J	AA	2.7 kohms,1/6W
R213~216	VRS-CY1JB123J	J	AA	12 kohms,1/16W
R217	VRD-ST2CD123J	J	AA	12 kohms,1/6W
R218	VRD-ST2EE123J	J	AA	12 kohms,1/4W
R323	VRS-CY1JB683J	J	AA	68 kohms,1/16W
R336	VRD-ST2CD562J	J	AA	5.6 kohms,1/6W
R343	VRD-ST2CD181J	J	AA	180 ohms,1/6W
R344	VRS-CY1JB681J	J	AA	680 ohms,1/16W
R345	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R346	VRD-ST2CD331J	J	AA	330 ohms,1/6W
R347	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R348	VRS-CY1JB681J	J	AA	680 ohms,1/16W
R349	VRS-CY1JB330J	J	AA	33 ohms,1/16W
R350	VRS-CY1JB272J	J	AA	2.7 kohms,1/16W
R351	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W
R352	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R353	VRS-CY1JB271J	J	AA	270 ohms,1/16W
R355	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R356	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R357	VRS-CY1JB474J	J	AA	470 kohms,1/16W
R358	VRS-CY1JB822J	J	AA	8.2 kohms,1/16W
R359	VRS-CY1JB182J	J	AA	1.8 kohms,1/16W
R360	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R361,362	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W
R363	VRD-ST2CD682J	J	AA	6.8 kohms,1/6W
R364	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R365	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R366	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R369A	VRS-CY1JB680J	J	AA	68 ohms,1/16W
R369B	VRS-CY1JB820J	J	AA	82 ohms,1/16W
R371~374	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R376	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R377	VRD-ST2CD562J	J	AA	5.6 kohms,1/6W
R379	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R380	VRD-ST2CD152J	J	AA	1.5 kohms,1/6W
R381	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R382	VRD-ST2EE331J	J	AA	330 ohms,1/4W
R383	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W
R384	VRD-ST2CD682J	J	AA	6.8 kohms,1/6W
R385	VRD-ST2CD562J	J	AA	5.6 kohms,1/6W
R386	VRD-ST2EE331J	J	AA	330 ohms,1/4W
R387	VRD-ST2CD562J	J	AA	5.6 kohms,1/6W
R391,392	VRD-ST2EE391J	J	AA	390 ohms,1/4W
R393	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R395	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R401,402	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R405,406	VRS-CY1JB273J	J	AA	27 kohms,1/16W
R407,408	VRS-CY1JB272J	J	AA	2.7 kohms,1/16W
R415	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R416~418	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R421	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R422	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R423~425	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R437,438	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R439	VRS-CY1JB392J	J	AA	3.9 kohms,1/16W
R440	VRD-ST2EE392J	J	AA	3.9 kohms,1/4W

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
R441	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R442	VRD-ST2EE103J	J	AA	10 kohm,1/4W
R521	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R528,529	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R532	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R533,534	VRS-CY1JB563J	J	AA	56 kohms,1/16W
R601	VRD-ST2EE821J	J	AA	820 ohms,1/4W
R602	VRD-ST2EE101J	J	AA	100 ohm,1/4W
R603	VRD-ST2EE333J	J	AA	33 kohms,1/4W
R604	VRD-ST2EE470J	J	AA	47 ohms,1/4W
R605	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R606	VRD-ST2EE470J	J	AA	47 ohms,1/4W
R607	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R608	VRD-ST2EE821J	J	AA	820 ohms,1/4W
R609	VRD-ST2EE101J	J	AA	100 ohm,1/4W
R610	VRD-ST2EE333J	J	AA	33 kohms,1/4W
R611	VRD-ST2EE470J	J	AA	47 ohms,1/4W
R612	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R685	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R686	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R702	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R703	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R706	VRS-CY1JB152J	J	AA	1.5 kohms,1/16W
R707,708	VRS-CY1JB122J	J	AA	1.2 kohms,1/16W
R716	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R717	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W
R718	VRS-CY1JB392J	J	AA	3.9 kohms,1/16W
R719	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R720	VRS-CY1JB392J	J	AA	3.9 kohms,1/16W
R721,722	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R723	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R724	VRS-CY1JB123J	J	AA	12 kohms,1/16W
R725	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R727	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R728	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R729	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R731	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R732~736	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R737	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R738,739	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R740,741	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R744	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R748	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R749,750	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R751	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R752	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R754	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R755~758	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R759	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R760~769	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R772~777	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R778~781	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R783	VRD-ST2CD333J	J	AA	33 kohms,1/6W
R784	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R785	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R786	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R787	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R789	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R791	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R792	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R793	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R796	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R797	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R798,799	VRD-ST2EE391J	J	AA	390 ohms,1/4W
R801	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R802	VRS-CY1JB823J	J	AA	82 kohms,1/16W
R803	VRD-ST2CD823J	J	AA	82 kohms,1/6W
R804	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R805,806	VRS-CY1JB823J	J	AA	82 kohms,1/16W
R807,808	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R809	VRD-ST2EE100J	J	AA	10 ohm,1/4W
R810	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R811	VRD-ST2EE4R7J	J	AA	4.7 ohms,1/4W
R812	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R813	VRD-ST2CD471J	J	AA	470 ohms,1/6W
R815	VRD-ST2CD821J	J	AA	820 ohms,1/6W
R816	VRS-CY1JB101J	J	AA	100 ohm,1/16W
R817	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R818	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R819	VRD-ST2CD333J	J	AA	33 kohms,1/6W
R820	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R821	VRD-ST2CD822J	J	AA	8.2 kohms,1/6W

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
R824	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R825	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R826	VRD-ST2EE101J	J	AA	100 ohm,1/4W
R827	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R828	VRS-CY1JB153J	J	AA	15 kohms,1/16W
R829	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R831	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R832	VRS-CY1JB154J	J	AA	150 kohms,1/16W
R833	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W
R834	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R835	VRS-CY1JB394J	J	AA	390 kohms,1/16W
R836	VRS-CY1JB152J	J	AA	1.5 kohms,1/16W
R837	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R838	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R839	VRS-CY1JB101J	J	AA	100 ohm,1/16W
R840	VRS-CY1JB105J	J	AA	1 Mohm,1/16W
R841~844	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R845	VRD-ST2EE820J	J	AA	82 ohms,1/4W
R846	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R848~854	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R855,856	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R857,858	VRS-CY1JB182J	J	AA	1.8 kohms,1/16W
R861,862	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R863	VRG-ST2EM100J	J	AC	10 ohm,1/4W,Fusible
R864	VRD-ST2EE101J	J	AA	100 ohm,1/4W
R865	VRD-ST2CD821J	J	AA	820 ohms,1/6W
R866	VRS-CY1JB683J	J	AA	68 kohms,1/16W
R867	VRS-CY1JB154J	J	AA	150 kohms,1/16W
R870	VRS-CY1JB103J	J	AA	10 kohm,1/16W

OTHER CIRCUITRY PARTS

CFW301	QCNWN0450SJZZ	J			Lead Wire
CFW682/A	QCNWN0394SJZZ	J			Flat Wire,5Pin
CFW701/A	QCNWN0378SJZZ	J			Flat Wire,2Pin
CFW702/A	QCNWN0378SJZZ	J			Flat Wire,2Pin
CFW703/A	QCNWN0388SJZZ	J			Flat Wire,2Pin
CNP301	QCNCM010PAWZZ	J		AD	Plug,14Pin
CNP401	QCNCM999CAFZZ	J		AG	Plug,3Pin
CNP651	QCNCM039DSJZZ	J		AD	Plug,4Pin
⚠ CNP681	QCNCM017BSJZZ	J		AD	Plug,3Pin
CNP701	QCNCM999GAFZZ	J			Plug,7Pin
CNP702	QCNCM999NAFZZ	J		AC	Plug,13Pin
CNP703	QCNCM999BAFZZ	J		AD	Plug,2Pin
CNP703A	QCNCM035FSJZZ	J		AD	Plug,6Pin
CNP704	QCNCM999KAFZZ	J			Plug,10Pin
CNP705	QCNCM998BAFZZ	J		AC	Plug,2Pin
CNP706	QCNCM999BAFZZ	J		AD	Plug,2Pin
CNP707	QCNCM998BAFZZ	J		AC	Plug,2Pin
CNP801	QCNCW011RSJZZ	J			Plug,16Pin
CNP803	QCNCM998CAFZZ	J		AE	Plug,3Pin
CNP804	QCNCM999DAFZZ	J		AG	Plug,4Pin
CNP805	QCNCM999EAFZZ	J		AG	Plug,5Pin
CNP808	QCNCM998BAFZZ	J		AC	Plug,2Pin
CNP909	QCNCM998BAFZZ	J		AC	Plug,2Pin
CNS301	QCNCW010PAWZZ	J		AE	Socket,14Pin
CNW401	QCNWN0395SJZZ	J			Flat Cable,3-3Pin
CNW701	QCNWN0381SJZZ	J			Flat Cable,7-7Pin
CNW702	QCNWN0400SJZZ	J			Flat Cable,13-13Pin
CNW703	QCNWN0383SJZZ	J			Flat Cable,2-2Pin
CNW704	QCNWN0384SJZZ	J			Flat Cable,10-10Pin
CNW705	QCNWN0387SJZZ	J			Flat Cable,2Pin
CNW706	QCNWN0385SJZZ	J			Flat Cable,2-2Pin
CNW707	QCNWN0449SJZZ	J			Flat Cable,2-2Pin
CNW801	QCNWN0390SJZZ	J			Flat Cable,16Pin
CNW802	QCNWN0391SJZZ	J			Flat Cable,6-6Pin
CNW803	QCNWN0392SJZZ	J			Flat Cable,3-3Pin
CNW804	QCNWN0396SJZZ	J			Flat Cable,3-4Pin
CNW805	QCNWN0393SJZZ	J			Flat Cable,5-5Pin
CNW808	QCNWN0445SJZZ	J			Flat Cable,2-2Pin
CNW909	QCNWN0462SJZZ	J			Flat Cable,2Pin
⚠ F652	QFS-D252CAWNI	J		AC	Fuse,T2.5A L 250V
⚠ F653	QFS-D132CAWNI	J			Fuse,T1.25A L 250V
FE301	RTUNS0016AWZZ	J		AX	FM Front End
J801	VHPIF11381+-1	J		AM	Jack,CD Digital Output
JK101	QJAKM0001SJZZ	J		AG	Jack,Headphone
LCD701	RV-LX0015SJZZ	J		AS	FL Display
M701	RMOTV0408SJM4	J			Motor with Chassis [Spindle]
M702	RMOTV0409AFM1	J		AN	Motor with Gear [Sled]
M801(246-6)	RMOTV0004SJZZ	J			Motor [CD Lid]
⚠ RLY601	RRLYD0004SJZZ	J		AG	Relay

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
RX701	VHLN61V380A-1	J		AN Remote Sensor
SO301	QTANC9003SJZZ	J		AF Terminal,Antenna
SO401	QSOCJ0003SJZZ	J		AG Socket,Video/AUX Input
SO601	QTANA0007SJZZ	J		AF Terminal,Speaker
⚠ SO651	QSOCA0212AWZZ	J		AD Socket AC Input
SP601,602	RSPA00020SJ8W	J		AQ Woofer
SP603,604	RALMB0001SJZZ	J		AH Tweeter
SW702	QSW-F9001AWZZ	J		AE Switch,Push Type [Pickup In]
SW709	QSW-K0004SJZZ	J		AD Switch,Key Type [On/Stand-By]
SW710	QSW-K0004SJZZ	J		AD Switch,Key Type [CD Lid Open/Close]
SW711	QSW-K0004SJZZ	J		AD Switch,Key Type [REW/Preset Down]
SW712	QSW-K0004SJZZ	J		AD Switch,Key Type [FF/Preset Up]
SW713	QSW-K0004SJZZ	J		AD Switch,Key Type [CD Stop/Tuning Down]
SW718	QSW-K0004SJZZ	J		AD Switch,Key Type [CD Play/Pause/ Tuning Up]
SW719	QSW-K0004SJZZ	J		AD Switch,Key Type [Volume Down]
SW720	QSW-K0004SJZZ	J		AD Switch,Key Type [Volume Up]
SW725	QSW-K0004SJZZ	J		AD Switch,Key Type [Bass/Treble]
SW726	QSW-K0004SJZZ	J		AD Switch,Key Type [Memory/Set]
SW727	QSW-K0004SJZZ	J		AD Switch,Key Type [Clear]
SW728	QSW-K0004SJZZ	J		AD Switch,Key Type [Function]
SW802	QSW-B0001SJZZ	J		AG Switch,Lever Type [CD Lid]

CD MECHANISM PARTS

301	MLEVP1054AFZZ	J			Rail,Guide
302	NGERH0586AFZZ	J		AC	Gear,Middle
303	NGERH0587AFZZ	J		AC	Gear,Drive
304	NSFTM0291AFFW	J		AD	Shaft,Guide
305	PCOVP1333AFSA	J		AF	Cover,Mechanism
306	PCUSG0001AWSA	J		AD	Cushion (Green)
307	PCUSG0004AWSA	J		AD	Cushion (Red-Brown)
⚠ 308	DCTRH8005SJ01	J		BA	Pickup Unit Ass'y
308- 1	————			—	Pickup Unit (Not Replacement Item)
308- 2	MSPRC0961AFZZ	J		AA	Spring,Rack
308- 3	NGERR0043AFZZ	J		AC	Gear,Rack
701	LX-WZ1070AFZZ	J		AA	Washer,ø1.5×ø3.8×0.25mm
702	XBBSD20P03000	J		AA	Screw,ø2×3mm
703	XBSSD26P06000	J		AA	Screw,ø2.6×6mm
704	XHBSD20P05000	J		AA	Screw,ø2×5mm
M701	RMOTV0408SJM4	J			Moter with Chassis [Spindle]
M702	RMOTV0409AFM1	J		AN	Motor with Gear [Sled]
SW702	QSW-F9001AWZZ	J		AE	Switch,Push Type [Pickup In]

CABINET PARTS

201	GCABA1077SJSA	J		AQ	Top Cabinet
202	GCABB1077SJSA	J		AN	Bottom Cabinet
203	GCOVA1016SJSA	J		AG	Cover,Rear Panel
204	GCOVA1017SJSA	J		AD	Cover,Remote Sensor
205	GFTAT1012SJSA	J		AG	CD Lid
206	GFTAT1013SJSA	J		AG	Slide Door
208	HBDGA1002SJSB	J		AD	Badge,SHARP
209	HDECA0001SJSA	J		AT	Cover Plate,CD Lid
210	HDECA0002SJSA	J		AN	Plate,Slide Door
211	HDECB0003SJSA	J		AK	Plate,CD Lid
212	HDECP0006SJSA	J		AH	Sheet,Operation
213	HDECQ0067SJSA	J		AF	CD Ling Panel
214	HDECQ0068SJSA	J		AK	Clear Panel,CD Lid
215	HDECQ0069SJSA	J		AH	LCD Window
216	HDECQ0070SJSA	J		AE	Indicator Panel,CD
217	HDECQ0071SJSA	J		AG	Indicator Panel,LCD
218	JKNBZ0059SJSA	J		AE	Knob,CD Open/Volume
219	JKNBZ0060SJSA	J		AE	Knob,Power/Volume
220	JKNBZ0061SJSA	J		AF	Knob,Operation
221	LANGF0054SJFW	J			Bracket,Display PWB
222	LANGK0032SJFW	J			Bracket
223	LANGQ0003SJFW	J			Rear Panel
224	LCHSM0015SJZZ	J			Chassis
225	LHLDM1005SJSB	J			Stabilizer
227	LHLDW1001SJZZ	J		AD	Nylon Band
228	LHLDZ1043SJSA	J		AE	Holder,Indicator Panel,CD
229	LHLDZ1044SJSA	J		AE	LCD Holder
230	LHLDZ1045SJSA	J		AD	LED Holder
231	LHLDZ1050SJSA	J			Holder,Remote Sensor
232	MSPRD0018SJZZ	J		AD	Spring,Slide Door
233	MSPRD0022SJFD	J			Spring

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
234	NSFTG0001SJZZ	J		Gear Shaft,Door
235	PCUSG0010SJZZ	J		Cushion,Leg
236	PGUMS0002SJZZ	J	AA	Cushion,CD Lid
237	PMAGF0002AWZZ	J	AE	Magnet
239	PRDAR0053SJFW	J		Radiator,Main
240	PRDAR0054SJFW	J		Radiator,Transistor
241	PSHEP0006SJSA	J		LCD Diffusion Sheet
242	PSHEP0009SJZZ	J		Sheet,Shield
⚠ 243	QFSHD0001AWZZ	J	AB	Holder,Fuse
244	TLABS0042SJZZ	J		Label,Laser
245	TSPC-0308SJZZ	J	AD	Label,Specification [For U.K.]
246	CGERW0008SJ01	J		Gear Box Ass'y
246- 1	LHLDZ1041SJSA	J		Lid,Gear Box
246- 2	LHLDZ1042SJSA	J		Gear Box
246- 3	NGERW0008SJSA	J		Gear Drive
246- 4	NGERW0009SJSA	J		Worm Wheel
246- 5	NGERW0010SJSA	J		Worm Gear
246- 6	RMOTV0004SJZZ	J		Motor [CD Lid],M801
601	LX-HZ0087AFFD	J	AA	Screw,ø3×8mm
602	LX-HZ0224AFFD	J	AA	Screw,ø3×6mm
603	LX-JZ0001SJFD	J	AA	Screw,ø3×10mm
604	LX-JZ0010AFFD	J	AA	Screw,ø3×10mm
606	XEBSD25P10000	J	AA	Screw,ø2.5×10mm
607	XEBSD25P12000	J	AA	Screw,ø2.5×12mm
608	XEBSF25P08000	J	AA	Screw,ø2.5×8mm
610	XHBSD30P06000	J	AA	Screw,ø3×6mm
611	XHBSF30P06000	J	AA	Screw,ø3×6mm
612	XJBSD30P06000	J	AA	Screw,ø3×6mm
613	XJBSD30P08000	J	AA	Screw,ø3×8mm
614	XJBSD30P10000	J	AA	Screw,ø3×10mm
615	XJBSF30P10000	J	AA	Screw,ø3×10mm
616	XHBSD20P03000	J	AA	Screw,ø2×3mm

SPEAKER BOX PARTS

901	GBOXS6003SJSA	J	AS	Box Ass'y
902	GLEGP0003SJSB	J	AD	Leg
903	GWAKP1020SJ01	J	AL	Net Flame Ass'y
903- 1	————		—	Net Flame (Not Replacement Item)
903- 2	PGUMM0003SJSA	J	AD	Net Catcher
903- 3	HBDGA1002SJSA	J	AF	Badge,SHARP
904	HPNLS1011SJ01	J	AQ	Front Panel Ass'y
904- 1	————		—	Front Panel (Not Replacement Item)
904- 2	HDECQ0073SJSA	J	AG	Panel,Tweeter
904- 3	PCOVZ1003SJSA	J	AG	Duct Cap
904- 4	PDUC-0005SJZZ	J	AE	Duct Pipe
905	PSPAG0005SJZZ	J	AE	Gsket
906	QTANA9011SJZZ	J	AE	Terminal
907	TSPC-0221SJZZ	J	AD	Specification Label
908	XTBSF40P12000	J	AA	Screw,ø4×12mm
SP601,602	RSPA00020SJ8W	J	AQ	Woofer
SP603,604	RALMB0001SJZZ	J	AH	Tweeter

ACCESSORIES/PACKING PARTS

⚠ 1	QACCB0003SJ00	J		AC Power Supply Cord [For U.K.]
⚠ 1	QACCE0002SJZZ	J		AC Power Supply Cord [For Europe]
2	QANTL0001SJZZ	J	AK	AM Loop Antenna
3	QANTW0002SJZZ	J	AH	FM Antenna
4	QCNWH0005SJ01	J	AF	Speaker Wire
5	RRMCG0041SJSA	J	AT	Remote Control
5- 1	GCABB1064SJSB	J		Battery Lid,Remote Control
6	SPAKA0112SJZZ	J		Packing Add.,Speaker [Top/Bottom]
7	SPAKA0116SJZZ	J		Packing Add.,Left
8	SPAKA0117SJZZ	J		Packing Add.,Right
9	SPAKC0207SJZZ	J	AP	Packing Case
10	SPAKS0007SJZZ	J		Sleeve Carton,Speaker
11	SPAKZ0039SJZZ	J		Polyethylene Bag,Speaker
12	SPAKZ0063SJZZ	J		Pad,Accessories
13	SPAKZ0064SJZZ	J	AC	Polyethylene Bag,Unit
14	SSAKA0009SJZZ	J		Polyethylene Bag,Accessories
15	TCADN0003SJZZ	J		Register Card [U.K.Only]
16	TINSE0094SJZZ	J	AF	Operation Manual [For U.K.]
16	TINSZ0120SJZZ	J	AN	Operation Manual [For Europe]
17	TINSE0093SJZZ	J	AD	Quick Guide [U.K.Only]
18	TLABE0107SJZZ	J		Label,Bar Code
19	TLABN0171SJZZ	J		Label,Serial No. [For Europe]
19	TLABN0173SJZZ	J		Label,Serial No. [For U.K.]
20	TLABZ0067SJZZ	J		Label,Energy
21	————		—	Battery (UM-4) (Not Replacement Item) [For Europe]

P.W.B. ASSEMBLY (Not Replacement Item)

⚠ PWB-A1~8	DCEKLV155SJ03	J	BT	Main/Display/CD/Terminal/ Switch/Led/Led/Led
PWB-B1,2	DCEKJV155SJ03	J	BF	Tuner/Washer
PWB-C	QPWBF3895AFZZ	J	AC	CD Motor (PWB Only)

OTHER SERVICE PART

	UDSKA0004AFZZ	J	AZ	CD Pickup Lens Cleaner Disc

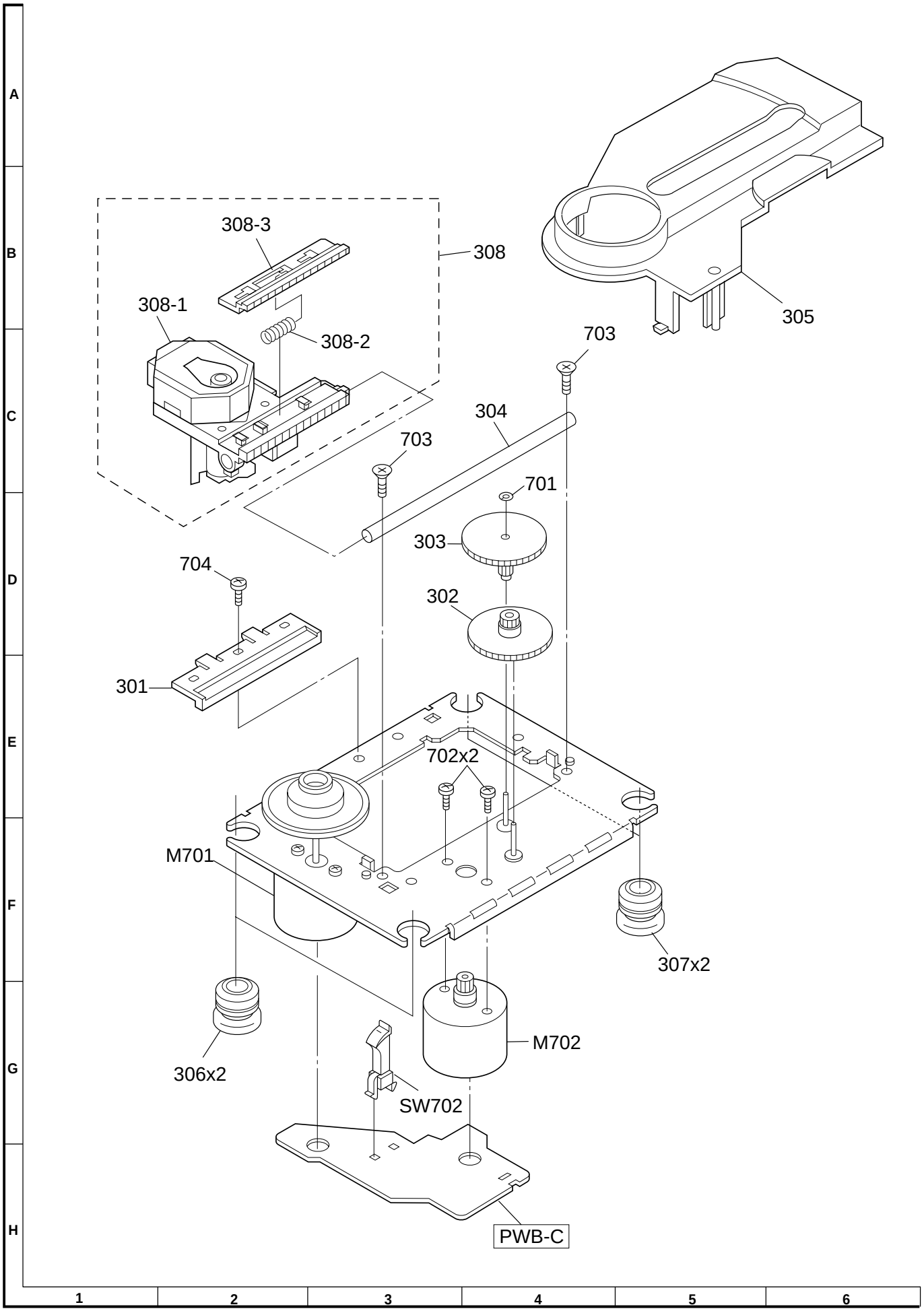


Figure 6 CD MECHANISM EXPLODED VIEW

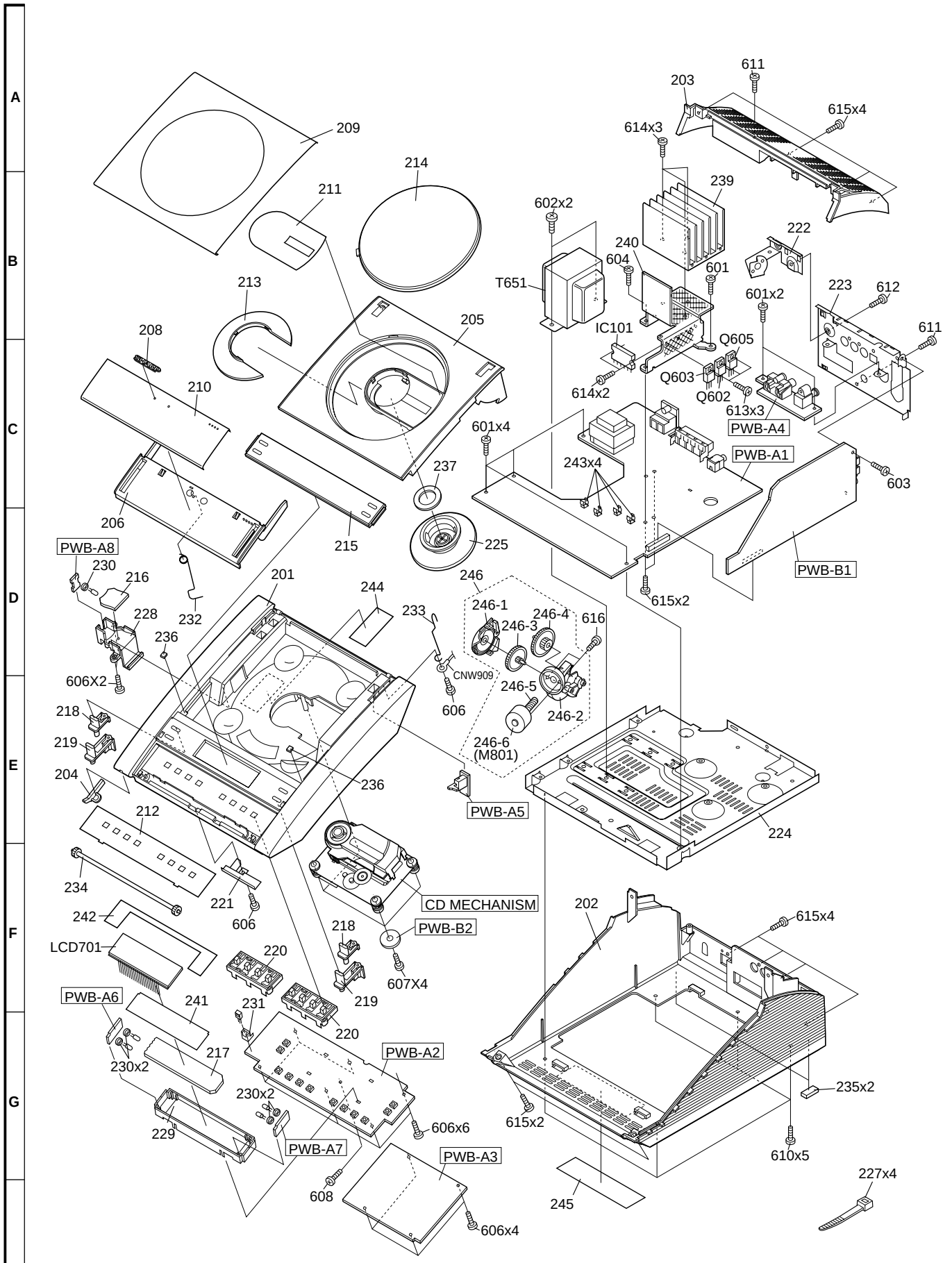


Figure 7 CABINET EXPLODED VIEW

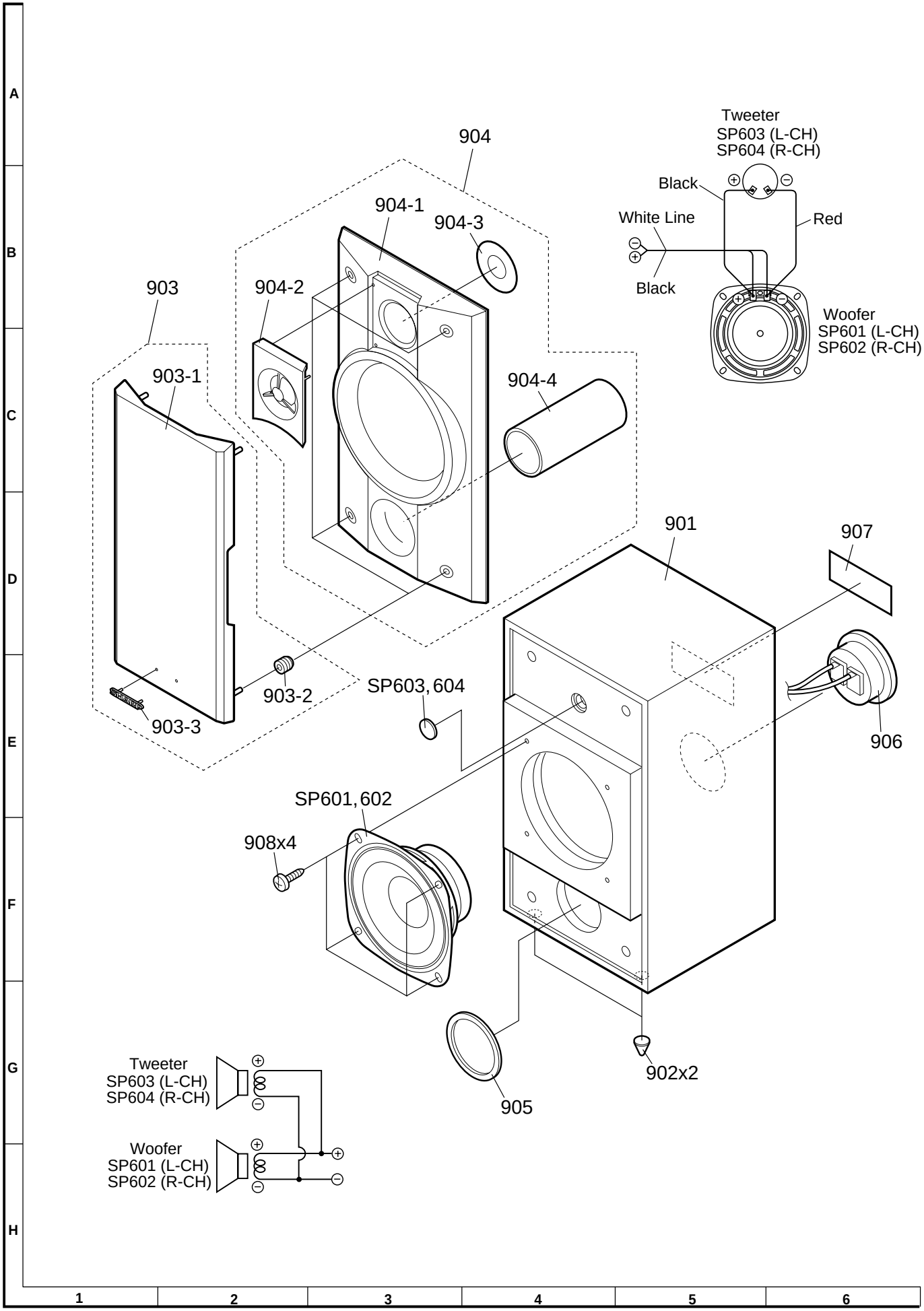
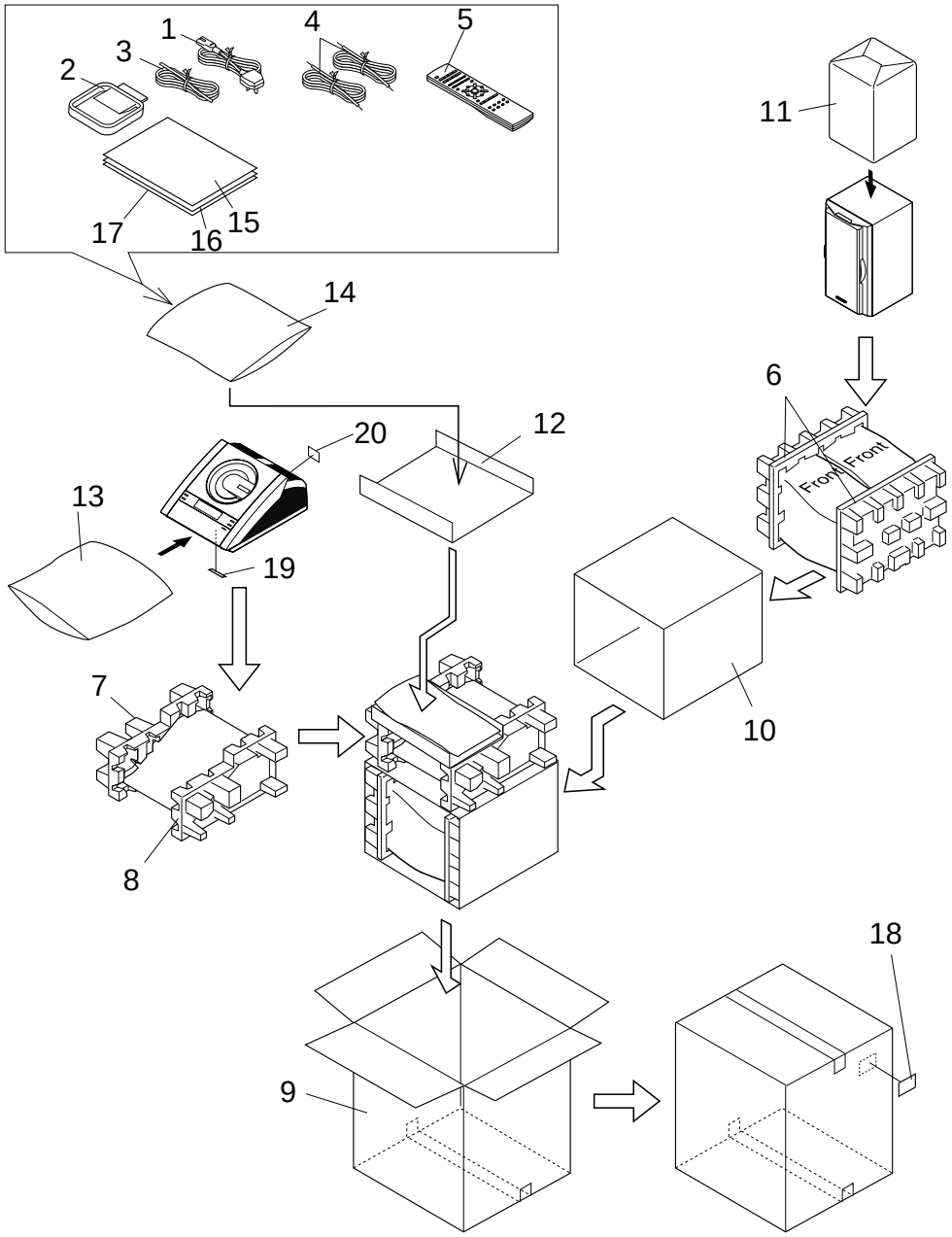


Figure 8 SPEAKER EXPLODED VIEW

PACKING OF METHOD (FOR U.K. ONLY)

1. AC Power Supply Cord	QACCB0003SJ00	12. Pad, Accessories	SPAKZ0063SJZZ
2. AM Loop Antenna	QANTL0001SJZZ	13. Polyethylene Bag, Unit	SPAKZ0064SJZZ
3. FM Antenna	QANTW0002SJZZ	14. Polyethylene Bag, Accessories	SSAKA0009SJZZ
4. Speaker Wire	QCNWH0005SJ01	15. Register Card	TCADN0003SJZZ
5. Remote Control	RRMCG0041SJSA	16. Operation Manual	TINSE0094SJZZ
6. Packing Add., Speaker [Top/Bottom]	SPAKA0112SJZZ	17. Quick Guide	TINSE0093SJZZ
7. Packing Add., Left	SPAKA0116SJZZ	18. Label, Bar Code	TLABE0107SJZZ
8. Packing Add., Right	SPAKA0117SJZZ	19. Label, Serial No.	TLABN0173SJZZ
9. Packing Case	SPAKC0207SJZZ	20. Label, Energy	TLABZ0067SJZZ
10. Sleeve Carton, Speaker	SPAKS0007SJZZ		
11. Polyethylene Bag, Speaker	SPAKZ0039SJZZ		

Setting position of switches and knobs	
CD Lid	CLOSE



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